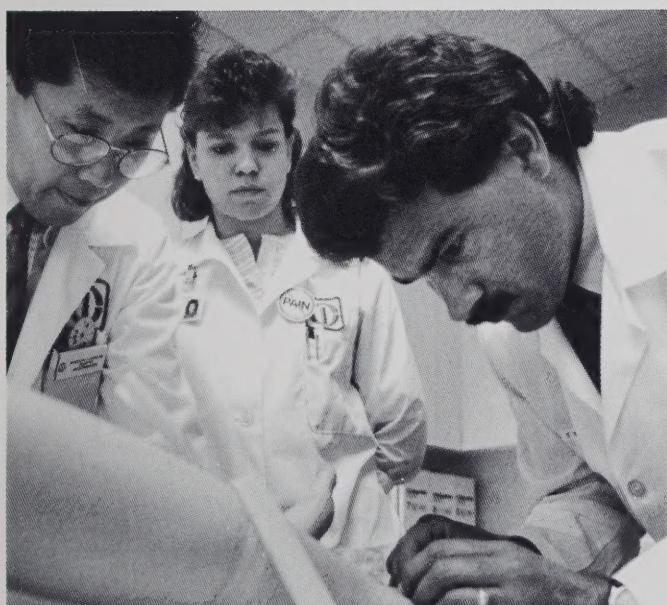
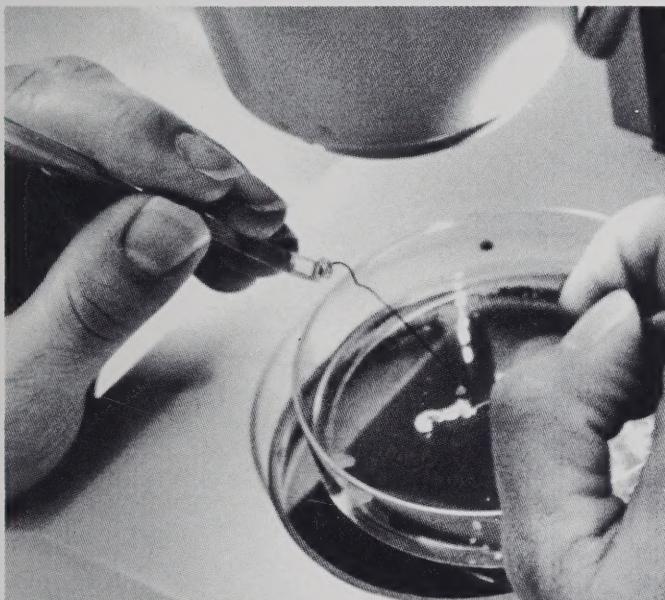


# RUSH-PRESBYTERIAN-ST. LUKE'S MEDICAL CENTER

 RUSH

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## Graduate Medical Education 1995-96



Rush University  
Presbyterian-St. Luke's Hospital

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**1995-96**

**Graduate Medical Education**

**Rush-Presbyterian-St. Luke's  
Medical Center**

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**Rush University  
Rush-Presbyterian-St. Luke's Medical Center**

**Office of Graduate Medical Education  
600 South Paulina Street  
Chicago, Illinois 60612**

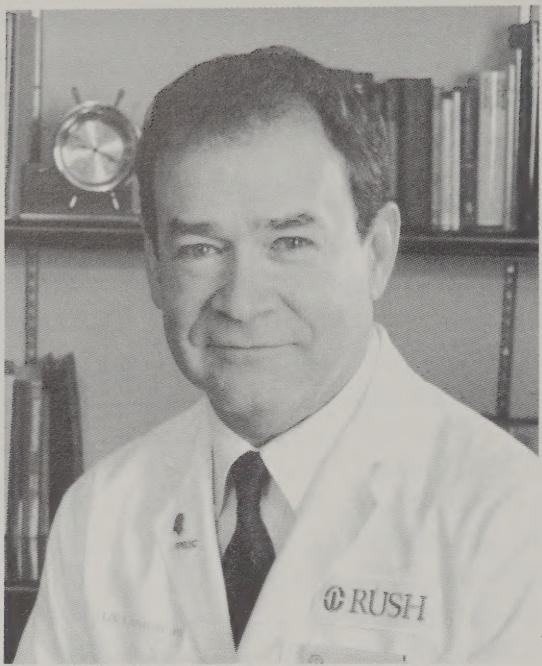
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Leo M. Henikoff, M.D.  
President and Chief Executive Officer

New residents reinvigorate an institution such as ours. My predecessor liked to say that each new group of residents created a positive information balance, bringing much more than they took away. We are delighted that you believe that your graduate medical education could not be in an environment more conducive to learning. In addition, I hope that you will find the environment stimulating to your professional and personal development.

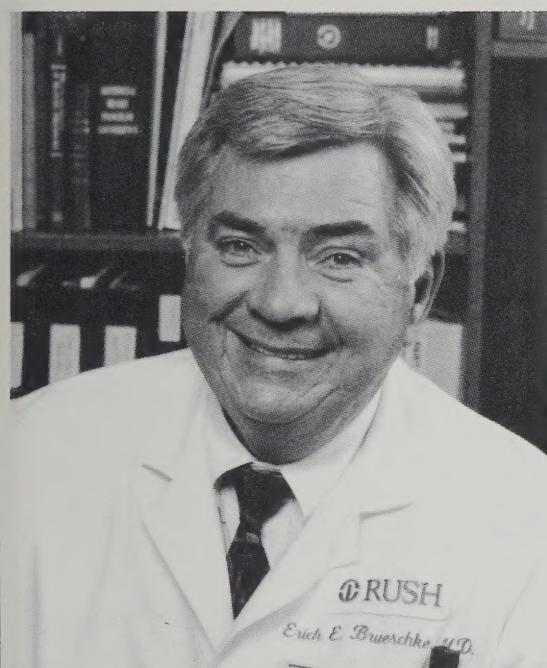
Here at Rush, outstanding practitioners and scholars share a wealth of knowledge born of hands-on experience and research. The primacy of patient care is woven into the very fabric of the medical center and its richly diverse operations and activities. In November of 1985, the Board of Trustees ratified a revised mission statement for the medical center that reaffirms quality care as the focal point of our activities.

In this changing health-care environment, patient care itself has begun to migrate away from hospital-based delivery to an array of outpatient settings. Rush-Presbyterian-St. Luke's Medical Center has been a leader in this regard and has undertaken a number of initiatives that, together with its outstanding resources in advanced technology and its distinguished professional staff, provide house staff with opportunities to round out their experience through participation in nonhospital care with special relevance for their future practices.

We are all very busy. I hope you will take the time to reflect on the goals that you set for yourself in embarking on your medical career years ago. The pressures of undergraduate medical education can at times cause you temporarily to lose sight of the motivation that has truly been the source of your aspiration to become a physician—caring for the well-being of patients. This is, in fact, precisely what we are about.

My welcome to you is sincere. I hope that you feel welcomed by our institution and make the best use of these postgraduate educational years.

Leo M. Henikoff, M.D.  
President and Chief Executive Officer



Erich E. Brueschke, M.D.  
Dean, Rush Medical College  
Vice President, Medical Affairs

**E**xcellence in patient care is the underlying purpose of Rush-Presbyterian-St. Luke's Medical Center. When the patient is the first priority, all of the other principles of patient care, such as teaching and research, follow. Excellence in each area of patient care is tied to the fundamental reason for which we exist. The training of health-care professionals is a critical element in providing excellent patient care to a large population. Research linked to the advancement of knowledge in the prevention, diagnosis, and treatment of disease is the linchpin of an academic medical center.

As one of the few major academic medical centers in this country, Rush-Presbyterian-St. Luke's Medical Center, which includes Rush Medical College of Rush University and seven affiliated hospitals, has created an ideal environment in which to learn medicine in all of its specialties and subspecialties. We have accomplished this objective by providing an outstanding faculty devoted to teaching, superbly equipped facilities, and exposure to a diverse patient population in both the inpatient and outpatient setting.

Rush-Presbyterian-St. Luke's Medical Center is a large, vertically integrated system with an academic medical center as its hub. The medical center provides for the total health-care needs of a large and varied population in Chicago and its surrounding suburbs. In addition, patients are referred to Rush from the surrounding states, the rest of the country, and the world. A combination of compassion for patients, outstanding resources, and a commitment to providing the best educational experience for our professional trainees makes Rush an excellent choice for further training. You are invited to join us.

Erich E. Brueschke, M.D.  
Dean, Rush Medical College  
Vice President, Medical Affairs



**The  
Medical  
Center**

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## **Introduction**

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Rush-Presbyterian-St. Luke's Medical Center is one of the nation's leading academic health-care, teaching, and research institutions. It offers training in 22 clinical departments to more than 600 residents and fellows each year. Presbyterian-St. Luke's Hospital provides the major clinical base for the medical center's graduate medical education programs. The hospital is a national referral center and a community resource.

The medical center's 33-acre main campus on Chicago's near West Side houses Presbyterian-St. Luke's Hospital with 912 beds and yearly admissions of nearly 30,000, Rush University with four colleges including Rush Medical College, and the Johnston R. Bowman Health Center for the Elderly, a geriatric rehabilitation hospital with 176 beds. More than 7,500 physicians, nurses, scientists, faculty, and support staff work on the main campus.

The medical center is the hub of a comprehensive, cooperative health-care system, the Rush System for Health, that serves approximately 1.5 million people in the greater Chicago area and northwest Indiana. The Rush System for Health includes seven affiliated hospitals and a number of managed care programs and networks for occupational and home health care. Taken together, the Rush system provides a rich array of opportunities for postgraduate education and research.

The seven Rush Institutes draw together patient care and research to address major health problems, offering primary health-care services as well as the latest treatments for arthritis and orthopedic problems, cancer, heart disease, mental illness, diseases associated with aging, and neurological disorders.

Rush University includes among its faculty the more than 1,300 members of Rush-Presbyterian-St. Luke's medical staff as well as many of the attending physicians at affiliated hospitals. In total, there are more than 3,000 clinicians and scientists on the university's faculty. Rush University is affiliated with 18 other colleges and universities in six states from Tennessee to Colorado.

Many members of the attending staff at Presbyterian-St. Luke's Hospital have private practice offices located in one of the professional buildings on campus. Postgraduate training in many departments includes opportunities for residents and fellows to follow patients in these offices.

Rush-Presbyterian-St. Luke's is a multifaceted organization of more than 10,000 people—medical and scientific staff, faculty, students, and employees—committed to providing the best possible care with compassion for every patient.

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## **History of the Medical Center**

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The tradition of excellence in medical education at Rush-Presbyterian-St. Luke's Medical Center began more than 150 years ago in 1837 with the founding of Rush Medical College, which graduated more than 10,000 physicians from 1837 until 1942 when it suspended its activities. Graduates and faculty members of Rush Medical College played a major role in establishing the medical schools at Northwestern University and the University of Chicago.

In 1883, at the urging of the Rush faculty, Presbyterian Hospital was founded as the first voluntary hospital in the United States built for the patients and students of an academic medical facility. In 1956, Presbyterian Hospital merged with another long-established, community-based hospital, St. Luke's, to form Presbyterian-St. Luke's Hospital.

In 1969, the charters of the inactive Rush Medical College and Presbyterian-St. Luke's Hospital were incorporated into Rush-Presbyterian-St. Luke's Medical Center. The medical college began admitting students once again in 1971.

Rush University was created in 1972 when the College of Nursing united with Rush Medical College. These two colleges were joined by a third, the College of Health Sciences, in 1975. The Graduate College, formerly a part of the College of Health Sciences, was established as the fourth freestanding college of Rush University in 1981.

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## **Facilities**

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The primary mission of Rush-Presbyterian-St. Luke's Medical Center is to provide high-quality, compassionate, comprehensive health care to all patients. That mission is accomplished by the many highly skilled and specialized professionals who run an extensive range of health-care services and programs at numerous facilities on the medical center's main campus and at some 30 locations throughout the Chicago area.

The medical center contains state-of-the art facilities to provide a wide range of medical and surgical services, including 34 operating rooms where more than 20,000 procedures are performed annually. In addition, there are a number of centers that offer specialized care, such as:

- The Center for Critical Care Medicine, which contains a 14-bed medical intensive care unit, a 7-bed noninvasive respiratory care unit, a 10-bed coronary care unit, and a 24-bed coronary step-down unit.
- The Rush Perinatal Center, a childbirth center in a homelike setting that has 39 bassinets for healthy newborns and a 40-bed neonatal intensive care unit.
- The Rush Surgicenter, an outpatient surgical unit with four operating rooms fully equipped for a broad range of procedures.

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## **Rush System for Health**

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In addition to Presbyterian-St. Luke's Hospital, the Rush Institutes, Rush University, and the Johnston R. Bowman Health Center for the Elderly on the main campus, the Rush System for Health includes:

- Seven affiliated hospitals—Copley Memorial Hospital in Aurora (293 beds), Holy Family Medical Center in Des Plaines (252 beds), Illinois Masonic Medical Center on Chicago's North Side (387 beds), Oak Park Hospital (296 beds), Rush North Shore Medical Center in Skokie (289 beds), Westlake Community Hospital in Melrose Park (316 beds), and Lake Forest Hospital (250 beds).
- The Rush Corporate Health Center, which offers medical examinations to executives from more than 200 Chicago area firms.
- The Rush Prudential Health Plans, a joint venture between Rush and the Prudential Insurance Company of America that provides managed health care in the Chicago area and northwest Indiana.
- Rush Occupational Health, which offers employment physicals, drug testing, and related services to more than 3,000 client companies.
- The Rush Home Care Network, which provides home health-care services in the Chicago area.
- ArcVentures, a subsidiary that provides billing, pharmacy, and consulting services.
- The Rush Center for Women's Medicine, which provides care for everyday health needs and access to a complete range of specialists.

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## **Research**

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Opportunities are available for house officers to participate in master's and doctoral programs in conjunction with their graduate medical education. The medical center's commitment to research involves annual expenditures of more than \$30 million, funded by private agencies, foundations, corporations, federal and state agencies, and individuals.

The medical center has a number of interdisciplinary committees for patient care in which physicians, surgeons, scientists, psychologists, nurses, and other health professionals develop integrated therapies for patients with such diseases as multiple sclerosis, rheumatoid arthritis, and Alzheimer's dis-

ease. The interdisciplinary approach is also used in research areas, especially in the approaches to cancer, cardiovascular diseases, and orthopedics. House officers are encouraged to take an active role in the continuing exchange of information and insight.

In all, more than 1,400 active research projects are conducted every year at the medical center resulting in some 1,600 publications. Among the research facilities at the medical center are seven specialty institutes—the Rush Institute on Aging, the Rush Arthritis and Orthopedics Institute, the Rush Cancer Institute, the Rush Heart Institute, the Rush Institute for Mental Well-Being, the Rush Neuroscience Institute, and the Rush Institute for Primary Care.

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**Programs in Graduate Medical Education**

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The graduate medical education programs offered at Rush, along with the minimum requirements for specialty board certification, are shown on the chart on page 10. All G-1 positions are offered through the National Resident Matching Program.

Residency programs in obstetrics and gynecology, orthopedics, general surgery, pediatrics, and family medicine are fully integrated with those at network hospitals. Recruitment for residency and fellowship positions at Rush is handled by individual department chairmen or program directors. Inquiries about programs and requests for applications should be addressed to them (see the program descriptions that follow).



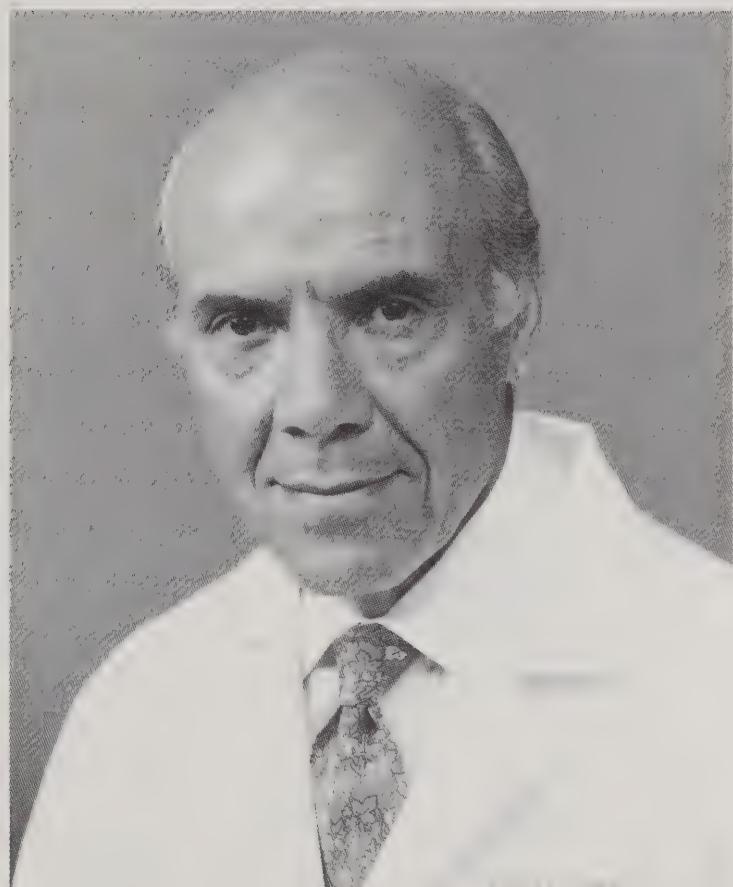
G1	G2	G3	G4	G5	G6	G7
Family Medicine				Peds. Specialties		
Pediatrics				Allergy-Immun.		
Internal Medicine				Med. Specialties		
Physical Medicine & Rehab.						
Dermatology						
Neurology						
Psychiatry						
Pathology						
Obstetrics-Gynecology			Ob./Gyne. Specialties			
Anesthesiology						
General Surgery				Plastic		
Urology				CV-Thoracic		
Otolaryngology						
Neurosurgery						
Orthopedics						
Ophthalmology						
Radiation Oncology						
Diagnostic Radiology*						

\*G1 requirement: Transitional/General Medicine/or General Surgery

## Medical and Surgical Sciences



**Stuart Levin, M.D.**  
Vice Dean, Rush Medical College



**Hassan Najafi, M.D.**  
Vice Dean, Rush Medical College

## **Department of Anesthesiology**

**Anthony D. Ivankovich, M.D.,  
The William Gottschalk, M.D.,  
Professor of Anesthesiology and  
Chairman**

The Department of Anesthesiology's four-year residency program offers an integrated and progressive clinical experience that provides residents with a broad scientific background and the clinical expertise necessary to excel in anesthesiology for the rest of their professional lives. The program, which is approved by the American Board of Anesthesiology, has a house staff of 57 residents.

To accomplish these goals in conjunction with the requirements of the American Board of Anesthesiology, the program is divided into a clinical base year (PG-1) and clinical anesthesia training years (CA-1, CA-2, CA-3). After a month of orientation to the field of anesthesiology, the first-year resident begins a clinical base year designed to provide a solid background in the fields of medicine that interact with anesthesiology.

During this first year, residents train in medicine, surgery, and other fields that are important to anesthetic practice. After six months of mandatory rotations in internal medicine and/or surgery, residents train in such specialized areas as cardiology, pulmonary medicine, surgical intensive care, thoracic surgery and bronchoscopy, and emergency room medicine. Thus the clinical base year should give residents the background necessary to deal with the respiratory, cardiovascular, and other medical problems that are important components of anesthetic practice.

Residents are given increasing responsibilities during the clinical anesthesia training years (CA-1, CA-2, CA-3), while under the direct supervision of the academic staff, in the management of patients undergoing anesthesia in the operating room, the labor and delivery suite, and special care areas, such as radiology and the neonatal intensive care unit. Residents are also assigned to anesthesia specialty areas, such as neuro-



surgery, cardiovascular surgery, obstetrics, the surgical intensive care unit, and the Rush Pain Center. Residents are supervised on a one-to-one basis by a member of the faculty during early training and for complex cases.

The resident's fourth year of training (CA-3) follows the guidelines set forth by the American Board of Anesthesiology but is flexible enough to meet the individual needs of the resident to complete training and prepare for practice. Depending upon previous performance and anticipated practice needs, the resident and program director collaborate to select one of the three tracks designated as the Advanced Clinical Track, Subspecialty Clinical Track, or Clinical Scientist Track. Regardless of the track selected, residents in the CA-3 year are assigned to difficult and complex anesthetic procedures and to seriously ill patients. Senior residents may also elect to be assigned to the department's Pain Center, research, or ongoing kidney, liver, or heart transplant programs. In addition, residents who choose to take the Clinical Scientist Track in the CA-3 year, followed by six months of additional research, may receive a Master of Science Degree in Pharmacology.

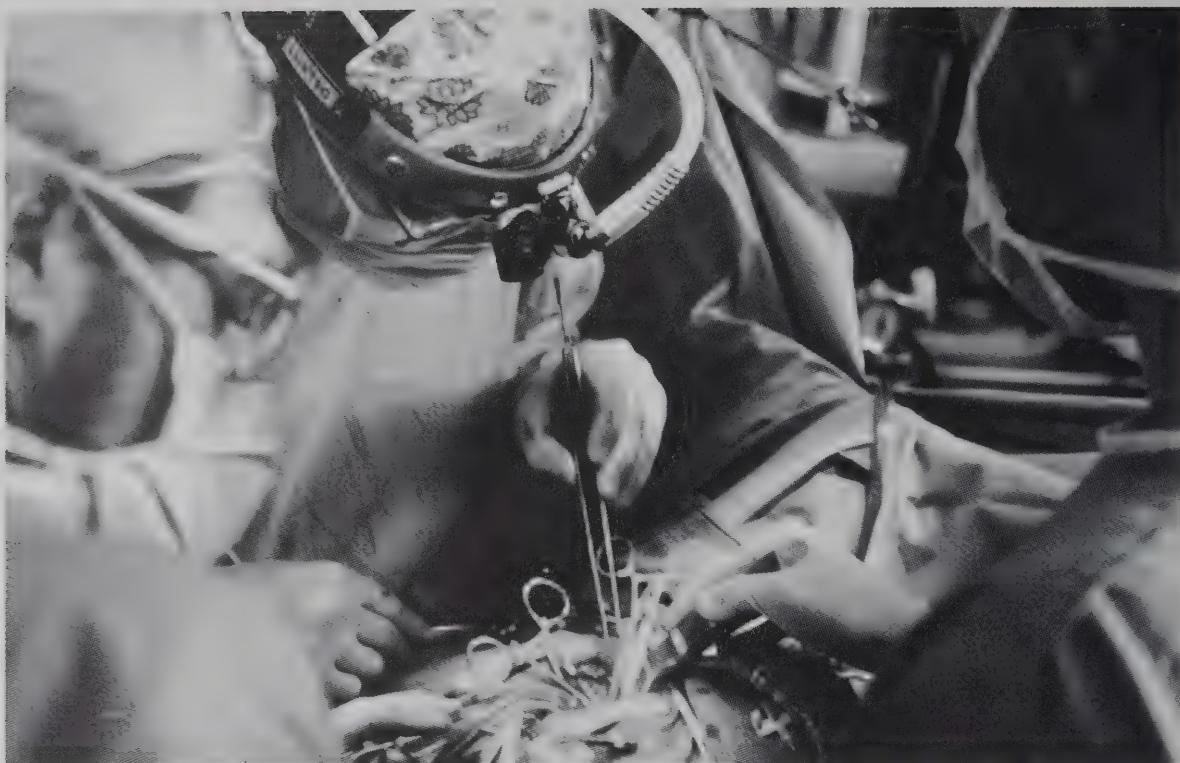
Our department's research efforts encompass both basic sciences and clinical investigation. Residents are encouraged to participate in research at all levels of their training. Some of the department's ongoing laboratory investigations include research into a chronic atherosclerotic swine model for the study of anesthetic effects on the aging myocardium, the effects of anesthetic and anesthetic adjunct agents on hibernating and stunned myocardium, a model for the development of new anxiolytic agents, mecha-

nisms of local anesthetic cardiotoxicity, novel methods of drug delivery, the use of the thromboelastogram for the diagnosis of experimental coagulopathies, and the use of anesthetics and adjunct agents in an animal model of supraventricular tachydysrhythmias.

Clinical areas of investigation focus on the safety, efficacy, and epidemiologic effects of anesthesia and pain management. Clinical studies include the effects of anesthetics on morbidity and mortality following open-heart surgery, reducing nausea and vomiting postoperatively, the use of thromboelastography to assess coagulation status after open-heart and peripheral vascular surgery, and the use of continuous epidural local anesthetic-narcotic infusion for postoperative pain management.

A three-hour didactic lecture series held every week throughout the three years of clinical anesthesia training forms the core of our residents' academic program. These lectures are supplemented with weekly grand rounds, tutorials, lectures by visiting professors, a journal club, participation in the Illinois Society of Anesthesia Study Commission, and the meetings of the Chicago Society of Anesthesiology. The resulting program is highly structured both inside and outside the operating theater.

The Department of Anesthesiology combines an academic environment with an excellent clinical experience that prepares residents for their future roles as consultants and practitioners of anesthesiology. Inquiries concerning the program should be directed to Anthony D. Ivankovich, M.D., Chairman, in care of Mrs. Donna Ritacco, Education Coordinator.



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## **Department of Cardiovascular /Thoracic Surgery**

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**Hassan Najafi, M.D.,**  
**The Mary and John Bent  
Professor of Cardiovascular-  
Thoracic Surgery, Chairman of  
the Department, and Director,  
Sections of Cardiac and  
Vascular Surgery**

**L. Penfield Faber, M.D.,  
Director, Section of Thoracic  
Surgery**

The Department of Cardiovascular/Thoracic Surgery offers a two- and three-year residency program in cardiac, thoracic, and vascular surgery accredited by the American Medical Association. The three sections of the program have separate patient-care functions but share a strong common goal in training. Two residents are appointed each year on July 1. Completion of an approved general surgery residency program and eligibility for examination by the American Board of Surgery are prerequisites for consideration. On successful completion of the training program, residents are eligible for examination by the American Board of Thoracic Surgery. Residents accepted for an additional year in

vascular surgery are eligible for certification of added qualification in vascular surgery through examination by the American Board of Surgery.

The focus of the department's training is to provide residents with an opportunity to obtain progressive education in the fields of cardiac, vascular, and thoracic surgery and to encourage clinical research and publication of results.

The major clinical rotations include four months of training at Children's Memorial Hospital in Chicago, eight months of senior responsibilities in general thoracic surgery, and 12 months of senior assignments in adult and congenital cardiac surgery. One year of senior responsibility in peripheral vascular surgery is included in the vascular surgery program. Additional training in any of the various areas of cardiovascular-thoracic surgery is available for interested residents. Residents choosing to spend one year in the laboratory prior to clinical education have the option of acquiring a master's degree. Areas of current basic research include cardiomyoplasty,

laser transmyocardial revascularization, artificial circulation, and the biology of pulmonary neuroendocrine tumors.

The department sees approximately 3,000 patients each year and all are available to the teaching program. Open-heart procedures, cardiac and pulmonary transplantation, abdominal and thoracic aortic surgery, carotid endarterectomy, and lower extremity bypass surgery are just a few examples of procedures routinely performed in the cardiovascular surgery section. In thoracic surgery, common procedures include pneumonectomy, sleeve resection, lobectomy, segmentectomy, decortication bronchoplasty, video-assisted thoracoscopic procedure (VATS), bronchoscopy, and a variety of mediastinal, pleural, esophageal, and chest wall resections.

At formal cardiovascular-thoracic conferences held each week, cases of interest are presented by participating institutions from the city and suburbs. There are weekly didactic sessions in vascular surgery, and all residents are given an opportunity to learn vascular diagnostic techniques in the department's noninvasive vascular laboratory. Thoracic radiology and pathology are taught by informal instruction and weekly conferences. In addition, residents attend one or more of the annual scientific sessions of the Society of Thoracic Surgeons, the American Association for Thoracic Surgery, the American College of Surgeons, or the Society of Vascular Surgery.

Inquiries concerning the program should be directed to the chairman.

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**Roger W. Pearson, M.D.,  
Professor and Acting  
Chairman**

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The Department of Dermatology offers a three-year residency training program that is fully accredited by the Accreditation Council for Graduate Medical Education and the American Board of Dermatology. The program accommodates a total of four residents. One new resident is accepted for each of two years and two are accepted every third year. Appointments are made only through the National Dermatology Matching Program. The focus of training is on the prevention, pathogenesis, diagnosis (including the histopathologic and immunopathologic diagnosis), and treatment of skin diseases.

The program puts special emphasis on associations and relationships between systemic disease and skin disease and stresses understanding normal skin care as it relates to preventive dermatology. The tutorial method of clinical teaching is intensively applied and enhanced by a

favorable staff-to-trainee ratio (there are four full-time and 18 part-time volunteer staff members).

During the first year, the resident participates in the outpatient service by making initial contact with new patients and discussing differential diagnostic and therapeutic regimes under the supervision of the attending physician. The resident learns routine and special diagnostic procedures, such as biopsies and minor excisions, patch testing, dark field examination, and KOH examination for fungi. The resident assumes more responsibility for patient care gradually. Each hospitalized patient is assigned to a specific resident who is responsible for organizing the workup and treatment. Second-year residents assume greater independence and assist in the clinical training of medical students and residents from other services. Third-year residents assume additional responsibilities and present lectures and conduct other formal teaching sessions for medical students, other health sciences students, and practitioners.

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**Department of  
Dermatology**

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Some department administrative duties pertaining to the resident training program, such as clinic assignments and schedules and organizing seminars, are assigned to the chief resident.

Annually, the Department of Dermatology sees approximately 11,000 outpatients and five to 10 inpatients and receives more than 700 referrals for inpatient hospital consultations. Consultations on inpatients and emergency room patients are initially conducted by the resident on call and presented to the attending staff member.

Clinical experience encompasses a broad spectrum of problems, including cutaneous infections, severe blistering diseases and drug eruptions, psoriasis and other major dermatoses, cutaneous malignancies, connective tissue diseases, and complicated diagnostic problems. The department is a major referral center for the greater Chicago area. Specialty clinics include the pigmented-lesion and skin-surgery clinics where both routine and more complicated procedures, such as hair transplantation, scalp reductions, dermabrasion, flap rotations, and vein sclerosis, are performed. Residents are also trained in the administration of phototherapy.

Special programs include weekly histopathology conferences and a lecture series on the topics of radiation therapy, phototherapy, mycology, and various dermatological basic sciences. There are also weekly journal club meetings and book review sessions. Third-year derma-

tology residents have the opportunity to rotate to other services in the institution. Patients with interesting diagnostic, treatment, or other problems are presented and discussed at monthly staff conferences. Residents also attend the monthly meetings of the Chicago Dermatological Society. They may also attend national and regional dermatological meetings and other scientific meetings on a selective basis. The department is actively involved in clinical and basic research; interested residents have the opportunity to participate in these activities during the residency training period.

To measure each resident's progress annually, the American Board of Dermatology provides in-training board examinations for residents enrolled in accredited dermatology programs. We require residents to participate in these annual proctored exams, which are consultant-graded and compare percentile scores with those of residents at the same level of training in all other training programs. The board requires that surgery and special procedures logs be maintained and submitted annually by each resident and that individual resident evaluations, tailored to each level of training, be sent to the board office at the end of each training year. These evaluations are based on the standards for certification established by the American Board of Dermatology and on the standards for resident training established by the Accreditation Council for Graduate Medical Education.

## **Department of Diagnostic Radiology and Nuclear Medicine**

**Jerry P. Petasnick, M.D.,**

**Chairman**

**Ernest W. Fordham, M.D.,**

**Associate Chairman**

**Suresh K. Patel, M.D.,**

**Associate Chairman**

**Claire Smith, M.D.,**

**Director, Postgraduate**

**Residency Training Program**

**and Medical Student Elective**

**Clerkship**

The Department of Diagnostic Radiology and Nuclear Medicine provides consultation for more than 200,000 patient examinations each year. All routine radiographic work is put on display daily within each subspecialty section for interpretation, consultation, and teaching. Special display areas are also located in other areas of the medical center. Outpatients of private physicians are examined in private radiologic offices in the Professional Building located across from the hospital. Radiology residents receive their training at Rush-Presbyterian-St. Luke's Medical Center, at Affiliated Radiologists, S.C., in the Professional Building on the Rush campus, and at Rush North Shore Medical Center.

State-of-the-art equipment is provided for all standard radiographic, fluoroscopic, and special procedures. The special procedures suite of three rooms contains single and biplane filming and has digital subtraction capabilities for performing neurologic, peripheral, and interventional angiographic procedures.

The computed tomography suite houses two state-of-the-art multipurpose scanners with multidimensional reconstruction capabilities available for imaging of the brain, spine, and body.

The ultrasound section contains five state-of-the-art scanners. Three have Doppler capabilities; one has color Doppler capabilities. A transrectal machine is dedicated to the evaluation of the prostate and distal large bowel. A portable machine with a specialized high-frequency T-shape transducer is routinely used in the operating room.

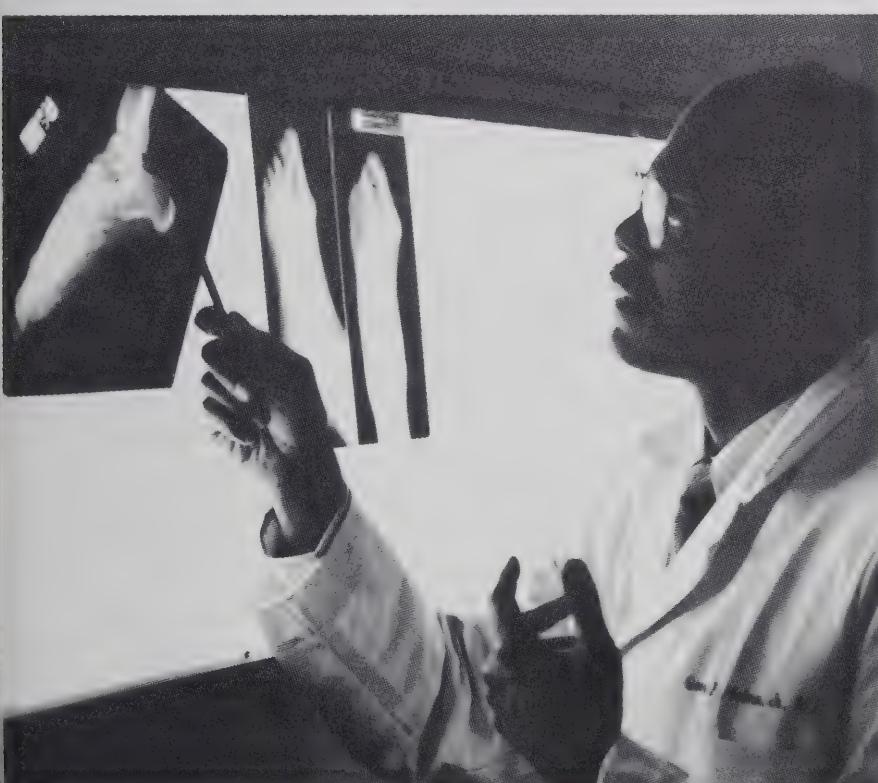
The magnetic resonance imaging center currently houses two superconductive magnets (0.5 and 1.5 Tesla) for clinical care and research. The center contains its own display center, conference room, and research space.

A radiology information system has been integrated into the hospital-wide information system to further enhance clinical services and care. A computer laboratory located within the Department of Radiology is available for further research and clinical support.

The Department of Diagnostic Radiology and Nuclear Medicine offers five positions annually in a four-year residency program in diagnostic radiology. The program is accredited by the Accreditation Council for Graduate Medical Education. After taking a clinical year, applicants for the four-year program are accepted through the National Residency Matching Program.

Inquiries regarding the program should be directed to Claire Smith, M.D., Director, Postgraduate Radiology Residency Training Program.

Postresidency fellowships are



available in neuroradiology, combined computed tomography/magnetic resonance imaging, nuclear medicine, and interventional radiology. Inquiries for fellowships should be directed as follows: Neuroradiology—Michael S. Huckman, M.D.; Body Imaging—David Turner, M.D.; Interventional—T.A.S. Matalon, M.D.; and Nuclear Medicine—E. Fordham, M.D.

Beginning with the first year of training, the resident is responsible for the interpretation of all radiography and the performance of every special procedure in the department. Every film interpretation, however, is checked by an attending staff member from the appropriate section, and every special procedure is supervised throughout its duration by a specialty radiologist. Various degrees of responsibility are delegated during the training program. Residents play an active role in teaching medical students who rotate through the various clerkship rotations provided by the department. These include: Diagnostic Radiology (Rad 601), Interventional Radiology (Rad 611), Correlative Imaging (Rad 612), and Pediatric Radiology (Ped 631).

The department holds teaching conferences daily and radiology grand rounds and a chairman's conference weekly. The department also provides radiologic consultation at various hospital-wide conferences, medical grand rounds, pediatric grand rounds, a clinical pathologic conference, a tumor board, and semiweekly autopsy conferences.

Each section maintains its own collection of teaching material. The Fay H. Squire Memorial Radiological Library is located within the department. The American College of Radiology learning file is available to residents both in film format and on laser disk.

All diagnostic radiologists and residents are urged to attend the scientific meetings of the Chicago Radiological Society, which are held six times a year. Time is made available for all residents to attend refresher courses at the annual convention of

the Radiological Society of North America.

The full-time staff is comprised of 28 radiologists. For administrative and teaching purposes, the department is divided into 13 sections. Each section has a full-time director, and each member of the staff is assigned to one of the sections, as follows:

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## Section of Breast Imaging

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### **Peter Jokich, M.D., Director**

The Section of Breast Imaging is responsible for the technical performance and interpretation of all breast imaging examinations and procedures. Although mammography is the primary focus of the section, breast ultrasound, ductography, stereotactic and ultrasound-guided needle core biopsies and aspirations, and preoperative needle localization of breast lesions are also performed when necessary. The section is also involved in educational endeavors and research activities related to breast imaging and breast cancer diagnosis.

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## Section of Computed Tomography

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### **Bruce Silver, M.D., Director**

As its name implies, computed tomography is a computer-based imaging modality that uses a rotating x-ray tube and detectors to acquire cross-sectional images of the body. Images are usually obtained in the axial plane; however, computer manipulation reconstructions can be made in a number of planes. Newer software now allows for 3-D reformatting as well as subtraction of overlying soft tissue and bone. Neurosurgical procedures have benefited dramatically from this latest advancement.

Scans can be performed with or without oral or intravenous contrast. CT angiography of the liver can be performed via a catheter placed percutaneously in the hepatic blood supply.

Biopsies of the lung, abdomen, pelvis, and bone are routinely performed with CT guidance. Certain drainage procedures are also facilitated by CT guidance.

Recent developments include slip-ring technology, which allows for extremely fast scanning. This technique reduces breathing artifacts and allows for more precise timing of infusion scans.

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### **Section of Gastrointestinal Radiology**

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**Claire Smith, M.D., Director**

Plain and contrast-enhanced radiographic and fluoroscopic studies of the abdomen and gastrointestinal tract, the gallbladder and biliary system, and the pancreas are performed in this section. Methods include routine biphasic examination of the upper alimentary tract and double-contrast examinations of the colon, whenever possible. Enterolysis studies of the small bowel are selectively performed. Special dynamic radiology studies of the pelvic floor are major areas of clinical interest. Educational and research studies are under way in cooperation with the clinical disciplines of gastroenterology, general surgery, and urogynecology.

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### **Section of Interventional Radiology**

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**Terence A.S. Matalon, M.D., Director**

The Section of Interventional Radiology is responsible for diagnostic and therapeutic intervention in both vascular and nonvascular settings. Examinations are usually performed by a resident and fellow with the supervision and assistance of an attending radiologist. In contrast to other areas in radiology, interventional radiology is a primary care discipline. The interventional radiology section is responsible for preproce-

dural evaluation performance and postprocedural follow-up with respect to specific clinical problems.

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### **Section of Magnetic Resonance Imaging**

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**David A. Turner, M.D., Director**

The Section of Magnetic Resonance (MR) Imaging is responsible for the performance and interpretation of all MR imaging studies in adults, except for examinations of the head, neck, and spine. Application of MR imaging to diagnosis is rapidly increasing. In addition to studies of the central nervous system, studies of the musculoskeletal system, pelvic organs, liver, and mediastinum are frequently performed at our institution. Examination of the cardiovascular system, including cinematic heart studies and MR angiography, is an area of active investigation.

The Department of Diagnostic Radiology and Nuclear Medicine offers a one-year combined imaging fellowship in MR and ultrasonography. Participants in this program spend a total of six months studying MR imaging; residents currently spend two months. In addition to a clinical teaching program characterized by intensive one-on-one interaction with attending MR subspecialists, trainees participate in a weekly MR "Physics for Physicians" seminar, a biweekly intersectional imaging fellows' conference, and a monthly MR journal club. Fellows and residents are encouraged to participate in the research activities of the section.

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### **Section of Medical Informatics**

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**Laurens V. Ackerman, M.D., Ph.D., Director**

This section provides direction in the evolution and management of our radiology information system (RIS) and our picture archiving and communication system (PACS). Along with the design and management of the multiple com-

puter networks in the department, the section is also concerned with computer connections inside and outside the department. It provides programming support to clinical and administrative areas in the department and conducts research into image analysis, artificial intelligence, PACS, RIS, computer networks, and computer systems.

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### **Section of Musculoskeletal Radiology**

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***John R. Charters, M.D., Director***

This section supervises the performance and interpretation of many of the radiologic studies involving the bones, joints, and soft tissues of the body (examinations using radioactive material and magnetic resonance fall under the supervision of other sections). Plain film examination, conventional tomography, computed tomography, and arthrography come under this section. All examinations are initially undertaken and reviewed by one of the residents in training, but final interpretation is supervised by an attending radiologist.

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### **Section of Neuroradiology**

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***Michael S. Huckman, M.D., Director***

This section is responsible for the following examinations: plain skull radiography, myelography, all head and neck arteriography and venography, and cranial and spinal CT and magnetic resonance imaging. The section also handles a significant volume of endovascular therapeutic procedures.

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### **Section of Nuclear Medicine**

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***Ernest W. Fordham, M.D., Director***

The Section of Nuclear Medicine offers two training programs that prepare candidates for certifying examinations.

The first is a two-year program, most of which is spent within the section except for an eight-week rotation in biochemistry during which the trainee is exposed to nuclide-based *in vitro* studies, primarily radioimmunoassay. Prerequisites are limited to one year (recently reduced from two) of training in the primary clinical care disciplines. This two-year program prepares the trainee for examination leading to certification by the American Board of Nuclear Medicine.

The second program is a one-year fellowship in nuclear medicine that, following completion of requirements for certification in diagnostic radiology, qualifies the trainee for examination by the American Board of Radiology for certification of special competence in nuclear medicine. The entire year is spent in the Section of Nuclear Medicine.

The major educational activity for both programs is a daily morning-long general film reading conference. Trainees actively participate in wide-ranging discussions leading to a formal report. Nuclear cardiology studies are interpreted at a similar afternoon conference scheduled to permit attendance by cardiology residents participating in the stress/exercise portion of the studies.

The didactic program includes a quarter-long lecture series in radiochemistry/radiopharmacy, physics, radiation safety/dosimetry, and radiobiology. Clinical applications are formally covered in the year-long grand rounds series of clinical lectures.

Approximately 10,000 imaging procedures are performed annually on a wide range of modern imaging equipment, including two triple-headed SPECT systems, a whole-body imaging device employing 24" wide detectors, and a battery of portable and single-headed devices with extensive capabilities. A cylindrical detector SPECT system is under development and clinical evaluation is under way. PET imaging is also under way with the use of a modern PET scanner (limited to 18-FDG imaging).

Major interests of the section include graphic demonstration of the whole-body distribution of radionuclides, including those used for specific organ imaging; continued development and evaluation of computer-assisted studies; clinical evaluation of commercial prototype equipment; and cylindrical SPECT and PET imaging with special attention to attenuation correction.

Trainees are actively encouraged but not required to undertake primary responsibility for their own research projects and/or participate in ongoing departmental projects. Trainees who are productive in this regard attend at least one out-of-town meeting at section expense.

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### **Section of Pediatric Radiology**

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#### ***B. Kim Han, M.D., Director***

This section is responsible for imaging children under 16 years of age with multimodal techniques. This section performs plain radiographs, fluoroscopy examinations (including upper-gastrointestinal tract studies, small bowel series, barium enema, excretory urography, and voiding cystourethrogram), ultrasound, CT, and MRI. Also performed are airway fluoroscopic examinations for children with sleep apnea. Portable ultrasound examinations of the head are performed regularly in the neonatal intensive care unit. The portable ultrasound examination is also used in the operating room to assist neurosurgeons during procedures.

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### **Section of Thoracic Radiology**

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#### ***Guy R. Matthew, M.D., Director***

This section is responsible for the interpretation of standard examinations of the chest, including portable film studies and chest fluoroscopy, as well as the interpretation of computed

tomographic scan sections of the chest.

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### **Section of Ultrasound**

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#### ***Bruce Silver, M.D., Director***

The Section of Ultrasound uses high-frequency sound waves to create images. Lack of ionizing radiation makes ultrasound the examination of choice in obstetrics.

However, the scope of diagnostic ultrasound is not limited to the fetus. Currently almost every organ system of the body can be imaged by ultrasound. The addition of Doppler ultrasound and color-flow imaging has significantly enhanced the evaluation of arterial and venous vascular structures. Specialized endoluminal probes are now available for evaluation of the prostate and ovaries. Endoscopic ultrasound transducers and intravascular probes have recently been developed. Guided biopsies are routinely performed under ultrasonic guidance. The portability of ultrasonic equipment has led to intraoperative uses. High-resolution transducers are now being used for neurosurgical as well as intraabdominal procedures.

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### **Section of Urologic Radiology**

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#### ***Suresh K. Patel, M.D., Director***

The Section of Urologic Radiology is responsible for performing and interpreting excretory urography, voiding cystourethrography, hysterosalpingography, vaginography, pull-out pyelography, percutaneous nephrostomy, renal angiography, adrenal arteriography, and venous sampling. The section also is responsible for workup of renal transplant patients and performs angioplasty of renal arteries and dilation of ureteral and urethral strictures.

## **Department of Family Medicine**

**William Schwer, M.D.,  
Acting Chairman**

**Thomas Dent, M.D.,  
Residency Program Director**  
**Steven Rothschild, M.D.,  
Co-Director, Internal Medicine  
and Family Practice Geriatrics  
Fellowship**

**Susan Vanderberg-Dent, M.D.,  
Associate Residency Program  
Director**

**Diane D. Homan, M.D.  
Associate Residency Program  
Director**

To train future teachers of family medicine, the Department of Family Medicine offers a postdoctoral three-year combined hospital residency, the Rush-Illinois Masonic Residency in Family Practice, with an optional one-year fellowship.

The Rush-Illinois Masonic Residency in Family Practice is a strong university-based program. Emphasis is on teaching and educational opportunities for the resident combined with community-oriented training at Illinois Masonic Medical Center on the North Side of Chicago. In addition, the department provides a number of opportunities for clinical and basic-science research for residents at both Rush Medical Center and Illinois Masonic Medical Center. The residency program is accredited by the Accreditation Council for Graduate Medical Education and the Residency Review Committee for Family Practice.

The sine qua non of family practice is the knowledge and skill that allow the physician to confront relatively large numbers of unselected patients and develop therapeutic relationships with these patients and their families over extended periods. The residency is structured to prepare the physician for this role. There are six residency positions in each year of the program and one fourth-year fellowship.

During the first year, residents spend 20 weeks in internal medicine. They spend eight weeks in

surgery and 12 weeks in pediatrics at Rush and Illinois Masonic, where the resident trains in the inpatient ward and the nursery. Twelve weeks of rotation in obstetrics and gynecology are spent at Illinois Masonic Medical Center. The residents spend a half day per week seeing their own patients in the Rush-Illinois Masonic Family Practice Center. Weekly conferences are held in the Family Practice Center.

In the second year, residents take 12 weeks of pediatrics at Rush Medical Center and Illinois Masonic Medical Center, where they train in the inpatient ward, emergency room, and subspecialty clinic. They take four-week rotations in neurology and cardiology, a six-week rotation in emergency medicine at Illinois Masonic Medical Center, and additional rotations in dermatology, behavioral medicine/substance abuse, orthopedics, otolaryngology/ophthalmology, urology, and community medicine. Residents spend two to three afternoons a week seeing their own patients in the Family Practice Center at Illinois Masonic Medical Center.

In the third year, residents' inpatient experiences include 16 weeks of required internal medicine selectives, electives to meet the needs of the resident, rotations in community medicine and geriatric medicine, and eight-week rotations as the Family Practice Center resident. Residents spend approximately 14 to 16 hours per week seeing their own patients in the Family Practice Center.

Behavioral sciences and clinical psychology experiences are continuous over the three years. Weekly conferences for second- and third-year residents cover a broad range of topics, including grand rounds, ethics, and journal club.

This program is a combined hospital residency program. All outpatient Family Practice Center training is done at Illinois Masonic Medical Center where, for the entire three years, residents maintain con-

tinuity of care with their patients. A team approach is used. By the third year, each resident will be caring for about 250 families. The integration provides experiences at both a tertiary care academic medical center and a comprehensive community-oriented teaching hospital.

Each resident's program can be individualized through electives to meet personal interests, career objectives, and the clinical responsibilities to be faced in the community. Graduated responsibility is the prevailing objective—residents occupy their own offices and provide care to their own patients. Our approach to primary care uses a broad spectrum of health-care professionals. This approach is strengthened by a doctoral clinical psychologist assigned to the center.

Conferences held at the Family Practice Center concern behavioral science topics, clinical research, office management, medical problem-solving, family practice grand rounds, ethics, journal club, geriatric medicine, and problem-oriented case discussions. All important decisions that affect resident rotations and residency affairs are made jointly by faculty in consultation with residents. Monthly meetings bring together elected resident representatives from each year, the chief resident in family practice, and key faculty members.

Research interests among the department's faculty focus on a variety of primary-care and basic-sci-

ence issues and are coordinated through the Section of Research.

Address all inquiries to the acting chairman.

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## Section of Research

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**Cynthia M. Waickus, M.D., Ph.D.,  
Director**

The Section of Research is a major component of the Department of Family Medicine. This section was established with a grant from the U.S. Department of Health and Human Services Public Health Service, but it also has internal and external sources of funding for specific research projects. The section conducts a number of basic-science, clinical, educational, and evaluational research projects. The department's faculty development program, which includes an annual workshop, is a key section responsibility. Research lectures and grant applications are also coordinated by this section.

Areas of continued interest and funding are immunologic probes for cancer screening, drug efficacy and testing, contraception, adolescent health, geriatric medicine, alcoholism intervention, the delivery of health care by family physicians, the impact of illness on the family, and the family physician's influence on lifestyle changes. Faculty members also design and implement a number of medical education projects.

## **Department of General Surgery**

**Richard A. Prinz, M.D.,  
The Helen Shedd Keith  
Professor and Chairman**  
**Steven Bines, M.D.,  
Director, Surgical Research  
Laboratory**  
**Anita S.F. Chong, Ph.D.**  
**John S. Coon, IV, M.D., Ph.D.**  
**Daniel J. Deziel, M.D.,  
Associate Coordinator, Resident  
Clinical Activities; Chief-Service I**  
**Alexander Doolas, M.D.,  
Associate Chairman, Department  
of General Surgery; Director,  
Undergraduate Surgical  
Education; Chief-Service IV**  
**Kambiz Dowlat, M.D.,  
Breast Cancer Research Unit**  
**Steven G. Economou, M.D., Emeritus**  
**Preston Foster, M.D.**  
**Howard Gebel, Ph.D.**  
**Stephen C. Jensik, M.D., Ph.D.**  
**Leon R. Kelleher, D.D.S.,  
Director, Section of Dentistry**  
**Deborah S. Loeff, M.D.,  
Head, Section of Pediatric  
Surgery**  
**Lawrence P. McChesney, M.D.**  
**Janet L. Meller, M.D.**  
**Frederick Merkel, M.D.**  
**Keith Millikan, M.D.,  
Liaison, Emergency Services**  
**Hernan Reyes, M.D.,  
Chief of Surgery, Cook County  
Hospital; Co-Director, Residency  
Program**  
**David L. Roseman, M.D.**  
**Theodore J. Saclarides, M.D.,  
Head, Section of Colon & Rectal  
Surgery; Associate Director,  
Residency Review**  
**Howard Sankary, M.D.**  
**Edgar D. Staren, M.D.,  
Associate Director, Surgical  
Research Laboratory**  
**Albert K. Straus, M.D., Ph.D.,  
Chief-Service II**  
**Van Vallina, M.D.,  
Rush North Shore Medical Center**  
**José Velasco, M.D.,  
Chief of Surgery, Rush North  
Shore Medical Center**  
**James W. Williams, M.D.,  
The Jack Fraser Smith Professor  
of Surgery and Director, Section**

**of Transplantation Surgery; Chief  
Service V**  
**Thomas R. Witt, M.D.,  
Coordinator, Clinical  
Conferences; Chief-Service III**  
**Norman L. Wool, M.D.,  
Director, Resident Clinical  
Activities**

The Rush University General Surgery Residency Program is accredited by the Residency Review Committee for Surgery for five years of training. Eight categorical appointments for full training and eight appointments for one year of preliminary training in surgery are available each year. The program is non-pyramidal. The educational program provides graduated, supervised responsibility in the clinical practice of general surgery and experience in the surgical subspecialties to ensure broad-based clinical competency in all aspects of surgery. There is sufficient flexibility to allow select trainees to interrupt their schedules for one or two years of surgical research.

The program is integrated, with the two main components being Presbyterian-St. Luke's Hospital and Cook County Hospital. The program is affiliated with Rush North Shore Medical Center in Skokie, Illinois. Presbyterian-St. Luke's Hospital is one of the busiest clinical institutions in the Midwest, where more surgery is done than at any other hospital in Illinois. The attending surgeons are not only skilled clinicians but skill teachers as well. Cook County Hospital has long had a reputation for teaching, aside from being one of the busiest city hospitals in the country. It organized the first trauma service, which has served as a prototype for all the rest. The clinical and scientific scholarship of its staff is widely recognized.

Clinical and basic research are carried out both at Presbyterian-St. Luke's Hospital and at the Hektoen Institute of Cook County Hospital. Areas of active investigation include tumor and transplant molecular and

immuno-biology, the role of adhesion molecules in metastases, tumor angiogenesis, cryoablation and laser therapy for primary and metastatic disease, pathogenesis of thyroid cancer, and the role of translocation in the development of secondary pancreatic infections.

Rush North Shore is a thriving community hospital that provides additional training as an affiliated institution. Its skilled surgical staff is noted for excellence in clinical teaching and innovative minimal invasive techniques. The combination of these institutions provides a breadth of exposure to all areas of surgery and critical care that is difficult to match.

Major teaching conferences are shared among the institutions in addition to specific and unique conferences peculiar to each institution.

The table on page 26 outlines the clinical rotations in the five years of training. Extreme care has been given to provide a uniform experience for all residents.

In summary, the Rush University-Presbyterian-St. Luke's-Cook County Hospital Integrated Residency Program in General Surgery is a broad-based program that challenges residents with a large number of patients manifesting the full spectrum of surgical illnesses. Training is offered in a number of desirable settings that fos-

ter graduated responsibility. At completion of this training, residents are equipped to pursue competitive fellowships or begin practice in any setting. Direct inquiries to Norman L. Wool, M.D., Director of Resident Clinical Activities.

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### **Section of Colon and Rectal Surgery**

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***Theodore J. Saclarides, M.D., Director***

This newest section in the department is dedicated to teaching the basic principles and practices of treating disease of the large bowel and anus. It is also in the forefront of laparoscopic colon resection and the new practice of transanal endoscopic microsurgery.

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### **Section of Dentistry**

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***Leon R. Kelleher, D.D.S., Director***

The Section of Dentistry is a clinically oriented service whose major academic effort is its general practice residency program. The dental service is fully accredited by the Council on Hospital and Institutional Dental Services of the American Dental



## **RESIDENT ROTATIONS**

### **Rush University Integrated Residency Program in General Surgery**

Presbyterian-St. Luke's Hospital (PSLH)

Cook County Hospital (CCH)

Rush North Shore Medical Center (RNSMC)

<b>Postgraduate</b>		
<b>Year</b>	<b>Residents</b>	<b>Rotations</b>
PGY-1	8 categorical 8 preliminary	6 months general surgery 2-month rotations at PSLH, CCH, RNSMC 6 months surgical specialties 1-month rotations at PSLH, CCH Surgical specialty rotations to include orthopedics, urology, plastic surgery, pediatric surgery, neurosurgery, cardiovascular surgery, ENT, surgical intensive therapy, and thoracic surgery
PGY-2	8 categorical 4 preliminary	Eight 6½-week rotations on the following clinical services General Surgery IV PSLH      Trauma CCH General Surgery I PSLH      Trauma CCH Transplant V PSLH      SICU CCH General Surgery RNSMC      Burn Unit CCH
PGY-3	8 categorical	Eight 6½-week rotations on the following clinical services General Surgery II PSLH      Cardiothoracic CCH General Surgery III PSLH      General Surgery I CCH Transplant V PSLH      General Surgery II CCH Peripheral Vascular CCH      General Surgery III CCH
PGY-4	8 categorical	3 months General Surgery I or IV PSLH 3 months General Surgery I or III CCH 1½ months Trauma CCH 1½ months Pediatric Surgery CCH 1½ months Peripheral Vascular PSLH 1½ months General Surgery RNSMC
PGY-5	8 categorical	6 months General Surgery PSLH 3-month rotations I & III or II & IV* 3 months General Surgery CCH I or II** 1½ months Trauma CCH 1½ months Peripheral Vascular CCH

Research—One year for selected residents between PGY-2 and PGY-3

\*PGY-4 residents taking PSLH I will have II & IV; PGY-4 residents taking PSLH IV will have I & III.

\*\*PGY-4 residents taking CCH I will take CCH II.

Association. The general practice residency training program is fully accredited by the Council on Dental Education.

The dental service is built around a nucleus of hospital-trained general practitioners and includes representatives of several specialties. The major portion of the clinical experience is in private outpatient treatment, with emphasis on management of the medically compromised patient.

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### **Section of Pediatric Surgery**

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***Deborah S. Loeff, M.D., Head***

The focus of the Section of Pediatric Surgery is the delivery of optimal care to infants, children, and adoles-

cents who have critical problems consistent with the tertiary care commitment of the hospital. House officers are responsible for the pediatric surgical patients during their assignment to the General Surgery Service III. Teaching rounds and didactic sessions are held regularly.

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### **Section of Transplantation Surgery**

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***James W. Williams, M.D., Director***

The transplantation program is the busiest in Chicago. The expert staff is involved in renal, liver, intestinal, and pancreas transplantation. Basic and clinical research is conducted in surgical laboratories and involves fellows and associated scientists.

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## **Department of Immunology/ Microbiology**

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## **Program in Allergy and Clinical Immunology**

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***Henry Gewurz, M.D.,  
The Thomas J. Coogan, Sr.,  
M.D., Professor of Immunology  
and Chairman***

***Anita Gewurz, M.D., Director***

The Department of Immunology/Microbiology, together with the Section of Pediatric Allergy/Immunology of Cook County Hospital, offers a two-year residency in allergy/immunology (with an optional third year) to prepare physicians for patient care, teaching, and research in this subspecialty. Upon successful completion of the program, trainees are prepared for examination by the American Board of Allergy and Immunology (ABAI), a conjoint board of the American Board of Internal Medicine and the American Board of Pediatrics. A three-year fellowship for combined certification in Allergy/Immunology and Rheumatology is available to internal medicine candidates. An additional year of preparation for ABAI certification in Clin-

ical and Laboratory Immunology may be arranged. Eight full-time and four part-time faculty members participate in the program.

The residency program provides balanced, intensive, and diverse training in all aspects of allergy and clinical immunology. Teaching clinics are conducted in the Rush-Presbyterian-St. Luke's Medical Center Allergy/Immunology office in the Professional Building and at the Cook County Hospital Fantus Clinic. Approximately 1,000 new outpatients and 150 new inpatients are seen yearly. There are more than 10,000 outpatient visits every year, including referrals from managed health-care plans.

The Allergy/Immunology service cares for patients with rhinitis, asthma, and other respiratory diseases, as well as urticaria/angioedema and other diseases resulting from immunologic hypersensitivity to extrinsic antigens. In addition, patients are seen with immunodeficiency syn-

dromes and systemic hypersensitivity diseases, including autoimmune disease and vasculitis.

Trainees are responsible for patient care, under the direct supervision of an attending physician. Trainees acquire proficiency in specialized diagnostic procedures, including hypersensitivity skin testing, spirometry, and provocation testing. Training in the administration of allergen immunotherapy, intravenous gammaglobulin, and other immunomodulators is provided. Trainees also receive instruction regarding routine and specialized clinical immunology laboratory tests.

The formal didactic program includes daily hospital teaching rounds, supplemented by basic and clinical immunology conferences, department research conferences, and patient care conferences on a weekly basis throughout the year. Invited lectures are also provided by consultants in pulmonary medicine, otolaryngology, infectious disease, rheumatology, nephrology, dermatology, and hematology-oncology. Trainees are sponsored for membership in and participate in the meetings of the Illinois Society of Allergy and Clinical Immunology, the Ameri-

can Academy of Allergy and Immunology, and the American College of Allergy and Immunology. Trainees take an active role in the education of rotating medical residents and medical students.

All trainees participate in the basic and/or clinical research programs of the department. Research is conducted under the direct supervision of one of the members of the department. Areas of current interest include the immunobiology of the inflammatory response; the biology of the complement system; the pathogenesis of allergic disease, including basophil, neutrophil, an eosinophil effector mechanisms; characterization of mononuclear and polymorphonuclear cell function in immunodeficiency states; the role of gammaglobulin in host defense and homeostasis; and the development of new or improved tests for allergic and immunologic diseases.

Trainees must have completed an approved residency in internal medicine or pediatrics prior to starting fellowship training in allergy/immunology. Please direct inquiries to Anita Gewurz, M.D., Department of Immunology/Microbiology.

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**Department of  
Internal  
Medicine**

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**Stuart Levin, M.D.,  
The James R. Lowenstein  
Professor of Internal Medicine  
and Chairman**

**Robert R. Rosen, M.D.  
Associate Professor and  
Associate Chairman**

**Alan A. Harris, M.D.,  
Professor of Medicine, Senior  
Assistant Chairman, and Program  
Director**

The Department of Internal Medicine provides a three-year postdoctoral residency training program accredited by the American Board of Internal Medicine. The department is responsible for 300 of the nearly 1,000 beds in Rush-Presbyterian-St. Luke's Medical Center.

Forty-eight first-year positions (38 categorical and 10 preliminary) are offered annually through the National Residency Matching Program. An additional year as chief resident, which consists of advanced training with teaching and

administrative responsibility and a medical staff appointment, is offered to five of our third-year internal medicine residents.

Our department's decades-old tradition dictates that only the house officers who have primary responsibility for an individual patient may write orders. Attending staff does not write orders. This simple tradition guarantees both the autonomy and authority of our house officers and maintains the superior educational quality of our program.

Each academic year is divided into four 13-week blocks. The first-year resident has 10 floor rotations through the general medical and critical care units. One or two of these rotations is at the Rush North Shore Medical Center, our suburban community hospital affiliate. General medical units are staffed by two senior residents, four first-year residents, and three Rush Medical College students. First-year residents also have four weeks of ambulatory

care, four weeks of elective time, three weeks of vacation, and one week of educational leave. The elective month may be taken in any medical or nonmedical specialty.

During the second year, a resident spends five months supervising general medical units and has two rotations in the emergency room/triage area. The remainder of the year is spent on elective services. The third-year resident has two to four general medical unit rotations, possibly another emergency room experience, and spends the remainder of the year in subspecialty areas of his or her choice. Throughout the second and third year of training, each medical house officer has a half day a week of outpatient continuing medical practice. This longitudinal care experience uses the on-campus facilities of either Rush Prudential (our HMO) or the department of medicine clinics. A PGY-1 trainee may participate in outpatient continuity activities on a voluntary basis. Senior house officers participate in two four-week block general internal medicine outpatient experiences either on campus or at affiliated institutions. Each subspecialty rotation also has an outpatient component.

Rush North Shore is a 300-bed facility with two 40-bed internal medicine units staffed by four senior and eight first-year residents. During a three-year residency, a total of two to three months will be spent at this facility. The goal of these rotations is to provide outstanding experience in a community hospital setting. Preliminary year applicants may elect to spend additional time at Rush North Shore if they desire.

The emergency room adds to our vigorous educational program in the ambulatory care setting. Residents rotate through our emergency services for two or three months. Our department has primary responsibility for the adult emergency room. The rotation is unique in that our residents are the first to evaluate

all adult patients presenting for emergency care. In addition to evaluating unstable ambulatory medical patients, the resident also manages a spectrum of surgical, psychiatric, obstetrical, and gynecologic patients. Supervisory support comes from attending personnel who are present 24 hours a day in the emergency room. Consultation and assistance from both medical and non-medical services are promptly available from in-house personnel.

The Department of Internal Medicine provides regularly scheduled educational experiences. On Monday, Tuesday, and Thursday from 7:30 a.m. to 9:00 a.m., bedside teaching rounds are made with an attending physician. Resident report is held Monday, Tuesday, and Thursday from noon to 12:45 p.m., followed by a conference from 12:45 p.m. to 1:30 p.m. These conferences are either didactic presentations of specific subjects, morbidity and mortality discussions, clinical pathologic correlations, or research seminars. Medical grand rounds occur on Wednesday from 8:00 a.m. to 9:00 a.m. On Wednesday from noon to 1:00 p.m., a special report takes place for first-year residents only. Concurrently, senior residents participate in an educational schedule that includes a journal club, preventive medicine topics, a legal/ethics curriculum, and a practice management series. A pathology conference for all residents follows from 1:00 p.m. to 1:30 p.m. In addition, each medical subspecialty conducts its own weekly conference, which is open to all department staff. Finally, special seminars, lectures, and clinical conferences are conducted by staff and visiting professors of medicine throughout the year.

Individualizing of programs is encouraged. A multitude of post-graduate experiences is available, including elective rotations through all medical and nonmedical specialties. Research electives can be arranged with subspecialty faculty

serving as mentors. Experiences in other parts of the country or the world can be arranged with approval.

In accordance with Section 708 of the Public Service Act, Rush-Presbyterian-St. Luke's Medical Center will, upon request from qualified applicants, offer shared-schedule residency programs in internal medicine.

All inquiries regarding the program should be directed to the program director.

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### **Division of Hematology-Oncology**

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#### ***Harvey D. Preisler, M.D., Director***

This new medical oncology/hematology/bone marrow transplant division was organized by the Department of Internal Medicine to integrate clinical care and research activities in the area of malignant disease. As a result of the creation of this division, weekly joint research and clinical conferences are held and clinical and laboratory research has been integrated in order to cross former lines of division between clinical and laboratory research in various relevant sections.

A combined hematology/medical oncology fellowship program has also been established. Electives are available for doctorate candidates and students who are interested in participating in clinical or laboratory research.

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### **Rush Cancer Institute**

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#### ***Harvey D. Preisler, M.D., Director***

The Rush Cancer Institute was established to ensure that cancer patients treated at Rush will have the best possible care. Since many patients with cancer are not cured by currently available therapies, to accomplish its mission the Rush Cancer Institute has established a large number and wide variety of integrated clinical/laboratory research programs.

One series of programs emphasizes the study of cell birth, death, and differentiation. These studies employ cellular biology and molecular biology techniques to evaluate cancers *de novo* and to assess the effects of biological agents on these characteristics *in vivo* in patients. The ultimate goal of these studies is to alter the behavior of cancers in patients to render them more responsive to treatment. Parallel studies have been designed to assess directly the drug sensitivity of cancers and to increase the sensitivity of resistant cells so as to render them more sensitive to treatment.

A second major area of interest is the administration of biological agents to improve the ability of the patient's immune system to destroy cancer cells. A variety of approaches are used, including vaccination of patients and administration of biological agents to increase the immune competence of patients.

Postdoctoral studies are available, as are electives for medical students and house officers who would like to acquire experience in clinical and/or laboratory research. Rush Cancer Institute clinical research programs are being established throughout the entire Rush System for Health.

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### **Section of Cardiology**

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#### ***Joseph E. Parrillo, M.D., The James B. Herrick Professor of Heart Research and Director***

The Section of Cardiology provides extensive consultation and diagnostic services, participates in medical student education in both the basic and clinical sciences, and conducts research studies involving clinical cardiology, experimental biochemistry and physiology, and computer applications.

Residents in the Department of Internal Medicine rotate through this section. Training emphasizes improving the resident's physical diagnostic abilities in clinical cardiology and the

acquisition of skills in interpretation of invasive and noninvasive studies. Particular emphasis is placed on evaluating complex cardiac patients with the use of electrocardiographic, echocardiographic, and catheterization data.

The cardiology fellowship is a three-year program. Eligibility requires completion of three years of residency training in internal medicine. Training includes inpatient and outpatient cardiovascular consultation; cardiac catheterization and coronary arteriography; electrophysiology, including intracardiac and epicardial mapping; exercise electrocardiography; and cardiac graphics, including M-mode, 2D, and Doppler echocardiography and phonocardiography. Fellows also gain experience in pacemaker insertions and technology; nuclear cardiology, including thallium and gated blood pool scanning; rehabilitative coronary care; and computer techniques in cardiology and preventive cardiology. The second and third years allow concentration in research and advanced instruction in a specific field of cardiology.

Inquiries regarding the fellowship program should be addressed to the section director.

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### **Section of Critical Care Medicine**

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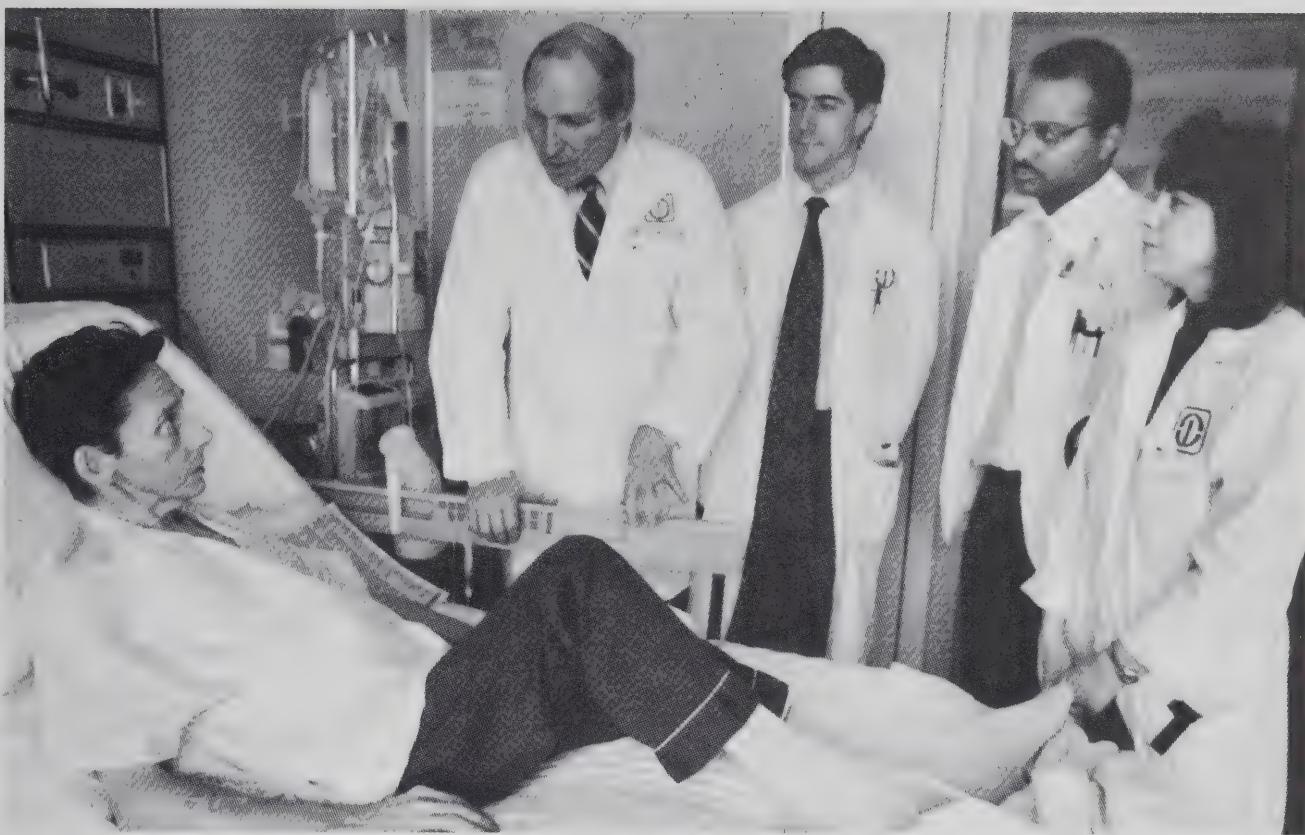
***Joseph E. Parrillo, M.D., The  
James B. Herrick Professor of  
Heart Research and Director***

The Section of Critical Care Medicine was formed in 1989 in recognition of the increasing importance of critical care medicine and the multidisciplinary nature of managing critically ill patients. This section is responsible for the administration of all the intensive care units (ICUs) within the Department of Internal

Medicine. These ICUs have a total of approximately 60 beds and consist of a coronary care unit, a coronary step-down unit, a medical intensive care unit, and a respiratory step-down unit. The section conducts the educational training program for internal medicine residents rotating through these ICUs. Members of the section are also responsible for supervising critical care procedures, including placement of arterial and pulmonary artery catheters and mechanical ventilation.

The critical care fellowship consists of two basic pathways: (1) a pure critical care medicine program in which board-eligible medical residents choose to train solely in critical care (these fellows spend 12 full months in clinical critical care and an additional 12 to 24 months performing clinical investigation and participating in critical care-related rotations) and (2) a combined program of a medical subspecialty (usually cardiology or pulmonary medicine) and critical care medicine. This combined program requires 12 full months of clinical critical care medicine in addition to the requirements of the other medical subspecialty. Both pathways provide extensive experience in management of critically ill patients in all the Department of Internal Medicine ICUs, consultative experience regarding management of surgical ICU patients, and experience performing ICU procedures. Fellows also actively participate in a critical care education program and learn about administrative and ethical concerns for critically ill patients. The fellowship places major emphasis on performing critical care-related research.

Inquiries regarding this fellowship should be directed to the section director.



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### **Section of Digestive Diseases**

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**Seymour Sabesin, M.D., The  
Josephine Dyrenforth Professor  
of Gastroenterology and Director**

The Section of Digestive Diseases provides a full range of consultative, diagnostic, and therapeutic services in gastrointestinal and liver diseases. The section is divided into a Gastrointestinal Service and a Hepatology Service. The two services perform the full spectrum of diagnostic and therapeutic endoscopic procedures, including state-of-the-art ERCP, endoscopic ultrasound, and esophageal motility. The Hepatology Service is actively involved in liver transplantation. (Rush has one of the top ten programs in the nation.) Both services are actively engaged in clinical research using investigational drugs and protocols.

Residents and students spend one month in the section, splitting their time between the two services. They participate in consultations and observe endoscopic procedures.

Formal teaching includes a weekly clinical conference held jointly with the Cook County Hospital GI Service, a combined conference with the departments of surgery and radiology, and a pathology conference. The gastroenterology fellowship is a three-year program, and three fellows per year are selected. The program encourages active participation in clinical research and development of clinical and endoscopic skills. Extensive ambulatory care experience is available in a new gastroenterology outpatient clinic. Rotations at affiliated hospitals supervised by faculty members of the Rush Section of Digestive Diseases enrich the training experience.

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### **Section of Emergency Medicine**

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**Paul K. Hanashiro, M.D., Director**

The Section of Emergency Medicine provides emergent and acute ambulatory care for all adult patients who are seen in the emergency department of Rush-Presbyterian-

St. Luke's Medical Center. The emergency department is a comprehensive emergency facility staffed by nine full-time attendings, including the director and the associate medical director, who is also the medical director of the Rush Poison Control Center. Residents in internal medicine have two or three mandatory rotations during their second and third years. The internal medicine house staff provides primary coverage. However, in-house consultants are available from other specialties 24 hours a day. All patients are seen by a resident and an attending physician, with the attending playing a supervisory role. This approach provides a unique experience for medical residents since a broad spectrum of adult problems are managed on first encounter. The basic learning experience is that of a preceptorship. Additional didactic sessions are also scheduled throughout the year.

In conjunction with the Rush Poison Control Center, the Section of Emergency Medicine also focuses on toxicologic emergencies in many of its research activities. A number of other research activities have been initiated in the emergency department in conjunction with other sections of the Department of Internal Medicine, especially in the areas of infectious diseases and cardiology. Currently there are no fellowship programs in the Section of Emergency Medicine.

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### **Section of Endocrinology and Metabolism**

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**Theodore Mazzone, M.D.,  
Director**

The Section of Endocrinology and Metabolism emphasizes a broad physiological approach to the spectrum of clinical problems seen in outpatient and hospital consultation by our attending staff and residents. The clinical program and fellowship are fully integrated with the Division

of Endocrinology at Cook County Hospital whose director, Dr. C.R. Kannan, heads a highly skilled team of physicians and educators who contribute significantly to the Rush program. Endocrine rounds are held weekly with the staffs of Rush and Cook County Hospital.

The research programs of the section are funded primarily by grants from the National Heart, Lung and Blood Institute. The range of projects under study includes macrophage biology, growth factor regulation of gene expression, cellular lipoprotein metabolism, and control of lipoprotein composition.

Other projects include assessment of new therapies for osteoporosis and Paget's disease conducted by Dr. Will Ryan, a world authority on these disorders.

The teaching program is active at all levels. The section offers students, residents, and fellows supervised experience with both outpatients and inpatients. In addition to regularly scheduled conferences, the section jointly selects with Cook County Hospital two fellows who serve for two years as part of a fully integrated fellowship program. All fellows are required to design and execute a research project that may be primarily either clinical or laboratory in nature.

Individuals may apply for approved fellowships after three years of residency training or by special arrangement.

Fellows should be eligible to take the examination for certification by the American Board of Internal Medicine. Please direct inquiries to the section director.

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### **Section of General Internal Medicine**

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**C. Anderson Hedberg, M.D.,  
Director**

The Section of General Internal Medicine is the newest and largest section of the Department of Internal

Medicine. More than 70 general internists practice primary care for adults at Rush-Presbyterian-St. Luke's Medical Center and in a variety of locations throughout the city and suburbs. There are both private practice and salaried physicians, and many are members of Rush managed care programs. They are responsible for more than 50 percent of the Department of Internal Medicine's admissions and participate actively in all of the important teaching programs of the department.

The goals of this section are to articulate the special context and requirements of primary care, encourage the development of role models for students and residents, expand the educational base to provide excellent teaching in ambulatory outpatient general medicine, assist new physicians in establishing practices in a variety of settings, and initiate research projects pertinent to the discipline.

Central to the program development of the section is the realization that training in ambulatory medicine is a national priority, and that there is a nationwide shortage of well-trained primary care doctors. The program emphasizes areas of particular expertise for the general internist, such as quality assurance, cost-conscious practice, managed care, public policy, access to care, women's health, health promotion, disease detection and prevention, clinical decision-making, moral and ethical issues, community-based services, behavioral medicine, occupational and environmental medicine, informatics, and practice management.

The section is organized on the foundation of a strong tradition of clinical excellence in general internal medicine at Rush-Presbyterian-St. Luke's Medical Center, and it provides exciting prospects for the future.

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## Section of Geriatric Medicine

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**Thomas J. Schnitzer, M.D., Ph.D.,  
The Willard L. Wood, M.D.,  
Professor of Medicine; Medical  
Director, Johnston R. Bowman  
Health Center for the Elderly;  
and Director**

The Section of Geriatric Medicine, through a substantial clinical base on and off campus, provides trainees with exposure to a diverse population of the elderly and to clinical experiences in many types of settings along the continuum of care. Research activities are directed to areas of expertise of the individual faculty and include epidemiology, health-care delivery issues, impaired physical function, osteoarthritis, urinary incontinence, pressure sores, and dementia.

The inpatient geriatric medicine unit in the Johnston R. Bowman Health Center for the Elderly is structured to give residents an opportunity to work with a multidisciplinary team in the assessment and management of the noninstitutionalized elderly. Case conferences and a regular lecture series during the rotation highlight age-related and age-dependent conditions in the elderly population.

During the four-week elective in geriatric medicine, the house officer or senior medical resident sees patients in a variety of on- and off-campus sites; selected geriatric syndromes and instruments of functional assessment are stressed.

Outpatients are seen as part of the faculty office practice or are referred for a comprehensive functional assessment performed by our interdisciplinary team. The inpatient service includes consultations on geriatric rehabilitation, geropsychiatry, and acute care units in Presbyterian-St. Luke's Hospital and the Bowman Center. Off-campus sites include home care experiences, hospice, and a variety of nursing homes.



The fellowship—two years with a possible third year—leads to eligibility for certification in geriatric medicine by the American Board of Internal Medicine.

Inquiries regarding fellowships or rotations by students or residents should be directed to the program director.

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### **Section of Hematology**

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***Stephanie A. Gregory, M.D.,  
Director***

The Section of Hematology provides consultative services for patients with hematologic malignancies, anemias, coagulation disorders, immunohematology, and other nonmalignant disorders. The section, which is closely affiliated with the Rush Medical Laboratories, provides diagnostic laboratory information and hematologic measurements for all medical center patients and participates in the clinical hematology laboratories, the bone-marrow laboratory, the Blood Center, and the coagulation and platelet-function laboratories.

The section is an integral part of the Rush Cancer Institute and provides an integrated fellowship program. The section offers fellows in hematology, residents in internal medicine, and senior medical students supervised clinical experience with inpatients and outpatients and opportunities to participate in diagnostic laboratory procedures. Teaching activities include daily hospital teaching rounds; weekly sectional conferences and seminars on patient-oriented problems, clinical and basic-science topics in hematology, marrow morphology, and clinical coagulation problems; and the medical center's weekly lymphoma and leukemia conferences. Residents also participate in outpatient office practice conducted by the faculty. Residents in internal medicine and medical students are assigned for four weeks at a time. Fellowships in hematology and hematology/medical oncology are available at the end of the third year of residency training.

Residents and fellows are encouraged to participate in the research activities of the section. The Section

of Hematology has an extensive research program in malignant and nonmalignant disorders. Many clinical and laboratory investigations are under way in the lymphomas, leukemias, myelodysplastic syndromes, and myeloma.

Inquiries regarding the fellowship program should be addressed to the section director.

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### Section of Infectious Disease

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**Gordon M. Trenholme, M.D., Director**

The Section of Infectious Disease provides consultative services and primary inpatient and outpatient care for patients with infectious diseases, including HIV infection. The section is responsible for surveillance and control of hospital infections and participates in the AIDS Clinical Trials Group, which is funded by the National Institutes of Health.

Teaching activities include daily rounds and lectures in the medical school curriculum on pathophysiology, microbiology, and pharmacology. A case discussion conference is held weekly. The section has an active affiliation with Cook County Hospital. Areas of research include clinical and pharmacologic studies of antibiotic, antiviral, and antifungal chemotherapy; antibiotic-resistant organisms; HIV infection; infectious diarrhea; Lyme disease; and sepsis.

The section offers a four-week elective on the inpatient consultative service and a two-week outpatient elective in ambulatory care of HIV-infected patients for fourth-year residents. Residents are offered a one-month clinical rotation on the consultative service. A two-year combined fellowship between Rush-Presbyterian-St. Luke's Medical Center and Cook County Hospital offers clinical and research activities conducted with faculty at both institutions. A third year of research

is available for selected individuals. Applications should be made to Dr. Trenholme.

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### Section of Medical Oncology

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**Philip D. Bonomi, M.D., Director**

The Section of Medical Oncology provides inpatient and outpatient care for patients with solid tumors. Within the section, individual attending physicians have developed subspecialty interests in the areas of breast cancer, lung cancer, gastrointestinal cancer, genitourinary malignancies, and head and neck tumors. During their assignments in internal medicine, residents will have the opportunity to participate in the care of these types of patients. In addition, the Section of Medical Oncology provides a unique opportunity to participate in the outpatient management of cancer patients. Members of the Section of Medical Oncology enthusiastically encourage residents to participate in outpatient rotations because this activity gives residents a better overall view of the natural history of malignant diseases and treatment outcomes.

The Section of Medical Oncology offers a weekly patient care conference during which residents have the opportunity to observe staff physicians discussing difficult cases and to join in the discussions of the management of these patients. In addition, the Section of Medical Oncology is an integral part of the Rush Cancer Institute; therefore, members of the section participate in the institute's weekly clinical lecture series and weekly didactic lecture series.

The Section of Medical Oncology offers the opportunity to participate in clinical or basic-science research activities. Residents and fellows are invited to participate in these ongoing projects. In addition, residents and fellows are encouraged to initiate new projects under the direction of one of

the members of the section.

Fellowships in medical oncology or medical oncology/hematology are available at the end of the third year of residency training. Inquiries regarding the fellowship program should be directed to William Leslie, M.D., Director of the Fellowship Training Program for Medical Oncology and Director of the Medical Oncology Educational Program for residents.

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### Section of Nephrology

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***Edmund J. Lewis, M.D., The  
Muehrcke Family Professor of  
Nephrology and Director***

Patients with various primary and systemic lesions of the kidney and genitourinary tract or with electrolyte and metabolic problems are studied and treated by the staff of the nephrology section. The section has a special interest in the diagnosis and therapy of patients with collagen-vascular disease. The laboratories of the unit are available for many special studies, including immunologic investigations of serum and renal biopsy material. The application of plasma-exchange therapies to several diseases, especially lupus erythematosus, is under active investigation. The section also has active acute and chronic dialysis programs. Patients with chronic intermittent dialysis or transplantation are cared for by the staff.

The section is pursuing research into several immunologic aspects of renal disease. Systemic lupus and cryoglobulinemia are of particular interest. A cell biology program is being carried out in concert with members of the Department of Pathology.

Daily clinical conferences are held with renal pathologists to review tissues from patients who have had renal biopsies. Each week, there are regular research meetings, a renal pathology conference, a

renal-urologic-radiologic conference, and a nephrology conference.

Members of the resident staff are assigned to the section for one- or two-month rotations, and research fellowships are available at the end of the third year of residency training. Applications for fellowships should be made to the section director.

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### Section of Pulmonary Medicine

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***Robert A. Balk, M.D., Director***

The Section of Pulmonary Medicine provides specialized consultation services to patients with diseases of the lungs and thorax and to the critical care unit. In addition to clinical service, the section is responsible for the pulmonary function laboratory, the cardiopulmonary exercise laboratory, chest physical therapy, and respiratory therapy. The section also performs fiberoptic bronoscopies and other special procedures.

The fellowship generally lasts three years and offers extensive participation in all activities listed. Fellows manage an outpatient clinic once a week. Supplementary rotations through intensive care, chest radiology, allergy, infectious disease, sleep laboratory and chest surgery round out the fellow's experience. Much of the teaching is done on a personal basis. The section conducts three conferences a week. Research experiences, both clinical and basic, are broad but focused around acute lung injury, sepsis, and asthma.

The fellowship prepares candidates for the specialty board of pulmonary medicine and critical care. Prerequisites for the fellowship are three years in an approved residency program in internal medicine, or the equivalent, and board eligibility in internal medicine.

Inquiries should be directed to Peter Szidon, M.D.

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## **Section of Rheumatology**

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**Thomas J. Schnitzer, M.D., Ph.D.,  
The Willard L. Wood, M.D.,  
Professor of Rheumatology and  
Director**

The Section of Rheumatology provides primary clinical, consultative, and procedural services in the diagnosis and management of rheumatic diseases and complaints. The section is actively engaged in clinical and basic-science research and participates in the medical education process at the basic-science and clinical levels.

Students and residents rotate through the section in one-month elective rotations. Under the supervision of fellows and attending staff, the trainees evaluate patients in both an inpatient and outpatient office setting. They learn the procedures and diagnostic and manage-

ment skills necessary to correctly identify and care for patients with problems of a rheumatic nature. During the month-long rotation, trainees are typically exposed to most of the common and many of the uncommon rheumatic diseases and problems. Teaching is done both at the bedside and in formal weekly conferences. A clinical conference, x-ray conferences, journal club, and a research conference with invited guest speakers are held by the section on a weekly rotating schedule.

Fellowships of two years, with a possible third year, lead to eligibility for certification by the American Board of Internal Medicine in the subspecialty of rheumatology.

Inquiries regarding fellowships and rotations by students and residents should be addressed to the program director.

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**Jacob H. Fox, M.D.,  
The Jean Schweppé Armour  
Professor of Neurology and  
Chairman**

**Harold L. Klawans, M.D.,  
The United Parkinson Foundation  
Professor in Neurological Sciences  
and Residency Co-Director**

**Judd M. Jensen, M.D.,  
Residency Co-Director**

The Department of Neurological Sciences is one of the oldest academic departments in the institution, and it has a long history of excellence in both teaching and research. The institution's first endowed professorship was established in the Department of Neurological Sciences in 1962. The department is divided into sections for cerebrovascular disease, epilepsy, general neurology, neurobiology, neuromuscular diseases, and Parkinson's disease and related movement disorders. Each section has its own faculty responsible for clinical care, teaching, clinical

research, and basic-science investigation. Faculty members also lead the Rush Alzheimer's Disease Center and the Rush Multiple Sclerosis Center.

Research questions currently being pursued by faculty include (1) the risk factors for vascular dementia, (2) the role of carotid endarterectomy in symptomatic and asymptomatic carotid occlusive disease, (3) acute ischemic stroke therapies that reduce morbidity and mortality, (4) investigation and development of new treatment strategies for movement disorders—pharmacologic, surgical, and biomedical, (5) environmental etiologic influences on the onset, expression, and progression of Parkinson's disease, (6) the interface between motoric and behavioral dysfunction in movement disorders with anatomic, pharmacologic, and physiologic probes, (7) the physiology of excitable ion channels, (8) the pathophysiology of conduction in demyelinated nerve, (9) the

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## **Department of Neurological Sciences**

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pharmacology of conduction modifiers in multiple sclerosis, (10) the biologic substrate of Alzheimer's disease with experiments involving human tissue and animal models, (11) growth factors and their relationship to neurodegenerative diseases, (12) risk factors for the development and progression of Alzheimer's disease, (13) interventions that may improve symptoms in patients with Alzheimer's disease, (14) the electrophysiology of aging, (15) new therapeutic approaches to the medical and surgical treatment of epilepsy, (16) anatomic correlates of partial seizures and dementia, (17) motor control evaluation using computer-assisted electromyogram, (18) pharmacologic treatment of amyotrophic lateral sclerosis, and (19) immunosuppressive therapy in myasthenia gravis.

The research program thus extends from studies of molecular and electrical phenomena of the nervous system and subcellular structures of nerve cells to the function of the healthy and diseased brain, with a major emphasis on clinical neuropharmacology.

The Department of Neurological Sciences offers a three-year residency in neurology. The residency program is accredited by the Liaison

Committee of the American Medical Association and the American Board of Psychiatry and Neurology. Four residents are accepted each year into the program. One year in a postgraduate program in general internal medicine is a prerequisite.

The goal of the program is to produce well-rounded clinical neurologists with a strong background in and understanding of basic neurobiological sciences. The first year of the neurology residency consists of 12 months of clinical neurology spent on inpatient and consultation services. Currently, time on clinical service is divided between Rush-Presbyterian-St. Luke's Medical Center and Cook County Hospital.

The second year consists of rotations in electroencephalography, electromyography, neuroradiology, pediatric neurology, neuropathology, and clinical neurology. During part of the year, the resident acts as senior resident, supervising junior residents and medical students on the inpatient ward or consultation service. During the third year, the resident spends six months acting as senior resident and six months in elective rotations. Elective rotations during the third year are chosen after consultation between the resident and the program director.

All patients admitted to the neurologic service are available for teaching and clinical experience. These patients suffer from a broad range of neurologic problems, including movement disorders, multiple sclerosis, epilepsy, and neurodegenerative and cerebrovascular disease. Active teaching clinics are also conducted in the private outpatient offices of faculty of the Department of Neurological Sciences and include specialized clinics in epilepsy, muscular dystrophy, multiple sclerosis, dementia, and movement disorders. Throughout the three-year program, residents have primary care responsibility for outpatients in the neurology clinic.

A major strength of this program is the close contact between the faculty and the small number of selected res-



## **Department of neurological surgery**

idents. Teaching rounds are made six days a week on each of the two clinical services. Weekly teaching sessions include chairman's rounds, brain cutting, neuroradiology, neurology grand rounds, neurology basic-science conferences (for residents only), and research meetings. In addition, residents have significant teaching responsibilities, including both clinical teaching and assisting in the neuroanatomy laboratory. Extensive clinical and preclinical research is being

carried out in a wide variety of areas by department members. Residents are urged to participate in these programs at some time in their training. Residents have close interaction with Ph.D. neuroscientists and other members of the department.

Fellowships are offered in electromyogram, electroencephalogram, and movement disorders/neuropharmacology. Inquiries should be directed to one of the program directors.

### ***Walter W. Whisler, M.D., Ph.D., Chairman***

The Department of Neurological Surgery offers one position annually in a six-year, post-M.D. training program approved by the American Board of Neurological Surgery. The clinical aspects of the program are organized around the principle of progressive, graded responsibility with appropriate supervision.

During the first year, residents rotate through general surgery and other surgical departments to develop a broad knowledge of the surgical arts and sciences. The second year is spent in clinical neurosurgery, with emphasis on diagnostic neuroradiology. The third year consists of a four-month rotation in each of the following: neurology, neuropathology (both at Rush), and trauma (at Cook County Hospital). The fourth year is set aside for research. The last two years are devoted to clinical neurosurgery. Rotations often can be modified to accommodate special interests.

Training is centered at Presbyterian-St. Luke's Hospital where approximately 620 neurosurgical procedures are performed per year.

The program is designed to present the basic neurological sciences as well as the practical aspects of neurosurgery. During the year, residents will attend neurology and

neurosurgery grand rounds, brain-cutting seminars, and a neurosurgical topic seminar. During the first part of neurosurgical training, the resident attends the "Review Course in Neurological Surgery" offered each year at Cook County Hospital by the National Center for Advanced Medical Education. Primary among the strengths of the Department of Neurological Surgery is the broad variety of clinical problems that are studied and managed. Beside general cranial, spinal, pediatric, and epilepsy neurosurgery, many microsurgical and stereotaxic procedures are performed.

Research facilities within the Department of Neurological Surgery include laboratories for neurochemistry, neurophysiology, and tissue culture. Two full-time Ph.D.s are actively engaged in research. Some of the projects are carried out with the cooperation of other departments and other institutions, including investigations into epilepsy, motor physiology, spasticity, the immunology of brain tumors, implantable drug pumps, and neurotransplantation. Thus, a broad range of clinical and experimental projects is carried out within the department, and residents have an opportunity to participate in these activities during training.

Inquiries concerning the program should be directed to the chairman.

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## **Department of Obstetrics and Gynecology**

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**George D. Wilbanks, M.D.,  
The John M. Simpson  
Professor of Obstetrics and  
Gynecology and Chairman  
Dee E. Fenner, M.D., Director,  
Residency Program**

The Department of Obstetrics and Gynecology offers a four-year post-medical school training program approved by the American Board of Obstetrics and Gynecology. The residency emphasizes comprehensive experience in all phases of obstetrics and gynecology, as well as experience in internal medicine, neonatology, anesthesiology, and obstetric and gynecologic pathology. The physician is prepared for the practice of general obstetrics and gynecology, for further subspecialty training, or for a career in academic obstetrics and gynecology.

The residency program combines experience in obstetrics and gynecology at Presbyterian-St. Luke's, Rush North Shore, and Illinois Masonic hospitals to provide a total, well-balanced

experience. Elective time may be spent in clinical rotations or basic research programs in the Department of Obstetrics and Gynecology or in related specialties, depending on the interest of the individual resident. There are five residency positions beginning July 1, 1995. Fellowships are available in maternal/fetal medicine, reproductive endocrinology and infertility, and urogynecology.

All members of the attending staff are certified by the American Board of Obstetrics and Gynecology. They are actively engaged in teaching programs for house staff and medical students. Residents at all levels are involved in student teaching at Rush Medical College.

During the first year, residents spend eight months in obstetrics and gynecology, learning basic patient-management skills and simple operative techniques. There are additional off-service rotations through general medicine, neonatal intensive care, pathology, anesthesia,



and critical care. In the second year, residents assume more responsibility in each rotation, as well as in the subspecialty divisions of gyn-oncology and endocrine infertility. In the third year, residents begin to manage patients with more complicated problems, conduct preoperative workups, handle obstetrical problems, and assume more operative responsibility. There is a formal rotation in high-risk obstetrics and gyn-oncology. Another rotation allows time for research as well as elective time. During the fourth year, the resident serves as chief of the respective services in obstetrics and gynecology at Rush-Presbyterian-St. Luke's Medical Center. In addition, the senior resident staffs the adolescent family center clinic and trains in urogynecology genetics, colposcopy, and primary care medicine. In the third and fourth years, the program also includes a continuity clinic for gynecology patients.

Each resident is required to complete at least one research project of his or her choice with a faculty advisor during the four years, which will be presented at a resident seminar held each spring. Many projects result in published papers and presentations at national and international meetings.

All services are available for teaching and clinical experience; this opportunity gives residents experience in a broad range of disciplines, including all subspecialties listed below. Active teaching clinics are conducted in the outpatient offices located in the Professional Building at Rush-Presbyterian-St. Luke's Medical Center and at Illinois Masonic Hospital. The services perform a total of 5,400 deliveries and 2,750 operative procedures annually, and they emphasize tertiary care for high-risk obstetrics, oncology, endocrinology, and complicated gynecologic operative procedures.

The department has staff representation in the major obstetric and gynecologic subspecialties: perinatal biology, endocrinology and infer-

tility (including in vitro fertilization), oncology, community obstetrics, family planning, obstetric anesthesia, sexual dysfunction, and psychosomatic obstetrics and gynecology. Each subspecialty involves interdisciplinary associations to broaden patient care, teaching, and research objectives. There is a maximum degree of interdepartmental exchange and cooperation. Faculty members with diverse backgrounds and a common interest in clinical obstetrics and gynecology offer residents depth in basic training and opportunity for specialized consultation and learning.

Applications for this residency program should be made to Dee E. Fenner, M.D., Director, Residency Program.

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### **Section of Ambulatory Reproductive Health Care**

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***Frank Merrick, M.D., Director***

The Section of Ambulatory Reproductive Health Care offers a wide range of experience in the ambulatory care of the obstetric and gynecologic patient. These experiences include routine health maintenance, prenatal care, cancer detection, venereal disease detection and treatment, family planning, and detection and treatment of gynecologic disease.

In an ambulatory setting, residents have the opportunity to follow the obstetric patient during both the prenatal and postpartum period. For those gynecologic patients who require surgery, residents follow the patient preoperatively and postoperatively at the Adolescent Family Center, the Gynecology Group, and the private offices of Women's Health Consultants.

In addition, residents interact with patients at the ambulatory unit of Illinois Masonic Medical Center and in four private practices at Rush North Shore.

The section emphasizes pre-

ventive medicine and patient education. A resident may elect, with the consent of the director, to engage in programs to develop particular skills in such areas as colposcopy or urodynamics.

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### **Section of General Gynecology**

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***Dee E. Fenner, M.D., Director***

This section encompasses the broad range of benign gynecology, from sexually transmitted diseases to complex surgical procedures. Following the influence of Drs. Heney, Allen, and Boysen, this section emphasizes vaginal surgery. In addition, the latest surgical techniques in laparoscopic surgery are performed.

Residents rotate through the general gynecology services each year, a program that provides increasing responsibility for preoperative evaluation through surgery and postoperative care. Residents actively participate in all surgical procedures. Senior residents, who have adjunct attending privileges, take a major role in all surgical procedures in which they participate. The gynecologic attending staff has overall responsibility for all procedures performed by residents. Residents are also involved in the urogynecology/ urodynamic laboratory. Second-, third-, and fourth-year residents see patients in their own continuity care clinic known as Gyne Care Group. Patients are followed over a three-year period. This experience provides residents with an opportunity to see how their therapies work and to establish doctor-patient relationships.

Formal teaching activities of this section include grand rounds, weekly morbidity and mortality conferences, patient bedside rounds, and a daily patient-management conference. Each spring, a visiting professor is invited to participate in a seminar titled "Aspects of Gynecologic Surgery."

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### **Section of Gynecologic Oncology**

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***Edgardo L. Yordan, M.D., Director***

The Section of Gynecologic Oncology consists of four staff gynecologic oncologists and four nurse oncologists. The section provides a focus for multidisciplinary long-term care of women with gynecologic malignancies. Activities of the section include prevention, diagnosis, management, and follow-up care for these patients, integrating the multidisciplinary efforts of the sections of gynecologic oncology, radiation oncology, medical oncology, gynecologic pathology, nursing oncology, clinical psychology, clinical nutrition, social services, and pastoral care.

Residents are offered supervised graduated experience in the diagnosis and management of gynecologic cancer, including gynecologic surgery, gynecologic endoscopy, chemotherapy, and radiation therapy. Approximately 200 new patients are seen each year.

Residents rotate in the second, third, and fourth years while at Rush-Presbyterian-St. Luke's Medical Center. Residents at Rush North Shore Medical Center participate in all cases conducted at that institution. Residents participate in all operations and attend all outpatient sessions, including colposcopy examinations. Didactic activities include daily teaching rounds, a weekly multidisciplinary clinic teaching conference, a formal gynecologic tumor board, a monthly oncology journal club, a monthly oncology research conference, and periodic participation at general grand rounds.

Several clinical research projects are in progress within the section, in cooperation with the national Gynecologic Oncology Group. Each resident is involved in basic cancer-patient care and may elect to pursue a clinical or basic research project during the training period.



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## **Section of Maternal-Fetal Medicine**

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**Howard T. Strassner, M.D.,  
Director**

The Section of Maternal-Fetal Medicine focuses on care of the high-risk mother and fetus, both at Rush-Presbyterian-St. Luke's Medical Center and within the Rush perinatal network. Education of physicians in training and in practice is a vital part of this responsibility.

The section is charged with providing obstetric education to students, residents, and fellows at Rush. We offer residents and fellows supervised experience with both inpatients and outpatients. Nearly 40 percent of our deliveries are high-risk. The section handles antepartum admissions to the high-risk obstetrics service for medical, surgical, and obstetric complications of pregnancy. High-risk obstetrics clinics provide ambulatory follow-up care for these patients.

The Rush Perinatal Center is the tertiary referral facility and administrative center for the 12-hospital Rush Perinatal Network. Nearly 18,000 deliveries per year are performed in

the network, thereby increasing our patient and research base.

Seven of the 28 residents are assigned to various levels of responsibility in the maternal-fetal/obstetric service at Rush. There are opportunities for residents and students from other institutions to rotate into the maternal-fetal medicine service to enhance their exposure and training in high-risk obstetrics. The maternal-fetal medicine program is approved by the American Board of Obstetrics and Gynecology for postresidency fellowship training in the subspecialty of maternal-fetal medicine.

Teaching consists of formal daily rounds, patient conferences, lectures, and seminars. Involvement in the basic and clinical research of the section is encouraged. Rotations are also available in other departments and at network hospitals. As prerequisites to acceptance into the fellowship training program, applicants must be eligible for certification by the American Board of Obstetrics and Gynecology and licensed in the State of Illinois. Please direct inquiries to Howard T. Strassner, M.D., Director, Section of Maternal-Fetal Medicine.

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## **Section of Obstetrics and Gynecology Research**

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**Lourens J.D. Zaneveld, D.V.M., Ph.D., The Harry Boysen, M.D., Professor of Obstetrics and Gynecology and Director**

The Section of Obstetrics and Gynecology Research aims at amalgamating and coordinating all research in the department and encouraging new research by faculty, residents, and students. The residents' research program is organized through this section and the Reproduction Research Laboratory is part of the section. Members of the laboratory include faculty and staff (both Ph.D.s and M.D.s), postdoctoral fellows, students, technicians, and an administrative coordinator. The laboratory performs research in the areas of fertility/infertility, reproductive toxicology, and contraceptive development.

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## **Section of Psychosomatic Obstetrics and Gynecology**

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**Stephanie Cavanaugh, M.D., Director**

Recognizing that the obstetrician-gynecologist is often the primary provider of health care to his or her patients, the Section of Psychosomatic Obstetrics and Gynecology is organized to stimulate and encourage expertise in this area. A productive liaison exists with the Department of Psychiatry. Combined appointments have produced an interdisciplinary team of clinicians and a research group. Consultation concerning patients with psychosomatic problems and unusual emotional difficulties is available to the staff at all times.

Residents have the opportunity to acquaint themselves with the effect of the emotions on reproductive and gynecologic physiology, as well as the importance of social and economic factors in physical and mental health.

The case method is used as a tool in teaching. The department is devoted to the principle of good patient care and to developing new systems for delivering this care to the community. Faculty of this section attempt to stimulate trainees to develop their own special interests by providing opportunities for enhancing their understanding of and expertise in the field.

Finally, the section conducts ongoing research examining psychological factors associated with survival from gynecologic cancer.

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## **Section of Reproductive Endocrinology and Infertility**

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**Ewa Radwanska, M.D., Ph.D., Director**

The Section of Reproductive Endocrinology and Infertility concentrates on:

(1) Providing up-to-date, comprehensive scientific evaluation and treatment of infertile couples, including assisted reproductive procedures, such as in vitro fertilization, embryo transfer, gamete intrafallopian transfer, zygote intrafallopian transfer, and tubal embryo transfer.

(2) Comprehensive and scientific management of endocrine disorders in women.

(3) Teaching of reproductive endocrinology and infertility at all levels of medical education for medical students, residents, and subspecialty fellows.

(4) Conducting clinical and basic reproductive research.

The clinical activities of the section use private practice resources (the reproductive endocrinology center) and are backed by the endocrine laboratory, andrology laboratory, in vitro fertilization laboratory, microsurgery laboratory, and surgical facilities of the medical center.

Teaching activities of the section consist of regularly scheduled lectures, conferences, seminars, case presentations, journal club meetings, and

other didactic sessions as well as bedside teaching in the medical center.

One resident, at the second-year level, is assigned to the section for a seven-week rotation. The resident participates in all clinical, surgical, and didactic activities of the section and is encouraged to take part in one of the ongoing research projects. The results of such a project may be chosen for a poster display on Rush University Day. During the rotation, he or she is expected to develop a basic knowledge of reproductive disorders and surgical skills in laparoscopy and hysteroscopy and become familiar with microsurgical techniques and assisted reproductive procedures.

The educational program of the section is approved by the American Board of Obstetrics and Gynecology for a two-year fellowship in reproductive endocrinology and infertility. Two fellows at each level of training participate in all clinical, didactic, and research activities of the section. In addition, the fellows pursue their own research projects as a part of their advanced training in reproductive endocrinology. Research interests and activities of the section include studies of endometriosis adhesions, myomata, and the effects of various treatment regimens, particularly gonadotropin-releasing hormone (GnRH agonists), on these diseases.

Identification of an optimal method of long-term estrogen replacement, management of dysfunctional uterine bleeding, sperm for intrauterine insemination, studies of ovulatory dysfunction, induction of ovulation, hyperandrogenism, and hyperprolactinemia are some examples of ongoing clinical research. Other projects include investigation of the effects of tubal surgery on

ovarian function; hormonal, dynamic, and enzyme studies of male infertility; computer-assisted semen analysis; development of improved methods for the cryopreservation of gametes, zygotes, and pre-embryos; and a study of factors determining oocyte maturation that influence the success of assisted reproductive procedures.

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## Section of Urogynecology

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### *Linda Brubaker, M.D., Director*

The Section of Urogynecology is involved in the care of women with lower urinary tract and complex pelvic floor dysfunction. Research interests within the section involve the investigation of various forms of nonsurgical therapy as well as comparative surgical trials for urinary incontinence. Investigations of lower urinary tract dysfunction interface with problems involving genital prolapse and dysfunction. The section acts as a tertiary referral source for patients with complicated urogynecologic problems throughout the Midwest.

A two-year fellowship is offered within the Section of Urogynecology. The section is involved in the activities of the American Urogynecological Society and International Urogynecologic Association.

Members of the section are currently involved in numerous clinical projects, including experimental trials with pelvic floor stimulation for urinary incontinence, electrodiagnosis, prevention and early identification of neuropathy, and disorders of smooth and skeletal pelvic muscle. Residents are encouraged to participate in these projects.

## **Department of Ophthalmology**

**William E. Deutsch, M.D.,  
Chairman**

**Thomas A. Deutsch, M.D.,  
Program Director**

Residency training in ophthalmology is a four-year program accredited by the Accreditation Council for Graduate Medical Education. Two residents are appointed each year to begin their ophthalmologic training following a pre-ophthalmology year. In this R-1 year, the rotations include internal medicine; infectious diseases; neurology; neurosurgery; plastic surgery; ear, nose, and throat surgery; general surgery; and ophthalmology. Positions are filled through the Ophthalmology Matching Program sponsored by the Asso-

ciation of University Professors of Ophthalmology.

The primary purpose of the ophthalmology program is to train residents in excellent medical and surgical care of patients with all types of eye diseases. Opportunities exist for clinical and basic-science research throughout the three ophthalmology years; research is not, however, a prerequisite for completion of the program.

The training program emphasizes continuity of care, with residents following patients continuously from the beginning of their training. Attending physicians are present during every clinic and are readily available for teaching on every case. The rate of development of surgical technique accelerates according to the resident's personal competence. Extraocular procedures are performed immediately after beginning the ophthalmology service. Intraocular procedures may be performed beginning in the latter half of the first year. The American Academy of Ophthalmology Basic and Clinical Science Course, a 12-volume set of manuals, is provided for each resident. The Chicago Curriculum in Ophthalmology, a city-wide basic and clinical science course, is mandatory for all eye residents. Clinical lectures and conferences are given by faculty on a regular basis. First-year ophthalmology residents spend a half day each week learning ophthalmic pathology and preparing presentations for pathologic conferences.

Most outpatient clinical activities occur in the Joseph and Helen Regenstein Eye Center of Rush-Presbyterian-St. Luke's Medical Center. This is a modern clinical complex with full facilities, including argon, krypton, and YAG lasers; complete ultrasonography; electroretinography; fluorescein angiography; and other ophthalmic photography devices, including video recording.

Inquiries should be addressed to the program director.



**Gunnar B.J. Andersson, M.D.,  
Ph.D., Chairman**  
**Ken N. Kuo, M.D.,  
Director, Orthopedic Residency  
Program**

The Department of Orthopedic Surgery offers a five-year residency program accredited by the American Board of Orthopedic Surgery. Four positions are available each year at Postgraduate Level 1. For those who have completed a residency in orthopedic surgery and are seeking specialized training, one-year postgraduate fellowships are available in joint replacement surgery, spinal surgery, surgery of the hand, sports medicine, and orthopedic research.

The prime focus of the residency is to prepare clinicians who are well trained in all facets of orthopedic surgery. In addition to ample exposure in general orthopedics, the residents participate in the care of patients with complex problems in joint replacement, spinal deformities, pediatric orthopedics, orthopedic oncology, hand surgery, adult spine surgery, foot and ankle surgery, and sports injuries. All residents are required to participate in clinical research during their training. For those who have academic interests, opportunity exists for a six-month rotation in laboratory research.

The residency program is organized on the principle of increasing resident responsibility under the supervision of the attending staff. The first postgraduate year is a rotating surgical internship with exposure to general surgery, neurosurgery, cardiovascular surgery, plastic surgery, and surgical intensive care. During the second and third postgraduate years, the resident serves as a junior house officer on the orthopedic services at Rush-Presbyterian-St. Luke's Medical Center and Cook County Hospital. The elective rotation in orthopedic research is available during the third postgraduate year for those who have acquired a good clinical back-

ground. During the fourth year, residents spend six months in pediatric orthopedic rotation at Shriners' Hospital for Crippled Children, Chicago Unit, with the remaining time serving as a senior resident at Cook County Hospital. The fifth postgraduate year is a chief resident position with advanced surgical and patient care opportunities at Rush-Presbyterian-St. Luke's Medical Center.

All patients at Rush and the affiliated hospitals are available for the teaching experience. Clinical exposure encompasses a broad scope of musculoskeletal problems, including joint replacement, spine surgery, pediatric orthopedics, orthopedic oncology, trauma, sports injuries, hand surgery, foot and ankle surgery, and surgery for arthritis. Out-patient exposure is mandatory in the private offices of the attending staff in the Professional Building on campus and in the nearby River City complex. Supervised resident clinics are held weekly to treat patients with fractures and pediatric orthopedic problems. A pediatric orthopedic rotation at Shriners' Hospital and trauma rotations at Cook County Hospital provide additional experiences in the management of clinic outpatients. The attending staff at Rush consists of 18 full-time and four part-time board-certified orthopedic surgeons. All orthopedic subspecialties are represented.

In addition to clinical teaching, didactic conferences are held at Rush-Presbyterian-St. Luke's Medical Center on Saturday morning. These conferences cover topics that include surgical indications, pediatric orthopedics, surgical anatomy, sports medicine, basic sciences, and the histopathology of musculoskeletal disorders. Weekly grand rounds are held on Thursday morning; interesting cases are presented by the residents and discussed by the attending staff, along with the participation of orthopedic surgeons from the community. A cadaver is provided for orthopedic residents yearly for their



basic anatomy course. Weekly sports medicine conferences and weekly joint replacement conferences provide additional opportunity for learning. Distinguished visiting professors are invited several times a year for lectures and discussions with the resident staff. Workshops on technical skills in orthopedic surgery are held during the year to give the residents additional hands-on exposure to specialized surgical skills.

The department emphasizes both basic and clinical research. A full-time staff of more than 30 professionals, including seven with Ph.D. degrees, is employed in orthopedic research. The biomechanics laboratory con-

tains a sophisticated opto-electronic gait analysis laboratory that is used in projects evaluating total-joint arthroplasty, cerebral palsy, osteotomy, and knee ligament injuries. Other areas of ongoing investigation include stress analysis of total-hip and total-knee prostheses, bone remodeling biomechanics, materials analysis of orthopedic implants, development of new prosthetic devices, new applications of bioelectricity in orthopedics, and cartilage biochemistry. The Department of Orthopedic Surgery has pioneered the use of porous materials to attach prosthetic implants to the skeleton. Research from the department has won numerous national and international awards.

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## **Program in Joint Reconstruction**

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***Mitchell B. Sheinkop, M.D.,  
Director***

The Joint Reconstruction Service is dedicated to the care of inflammatory, degenerative, and post-traumatic arthritic disorders of the major joints of the lower extremity. It is a particularly active clinical service that has four full-time attendings. Rush is a tertiary referral center for many complicated lower extremity reconstruction problems. In addition, a high volume of primary total-hip and total-knee arthroplasties are performed at Rush. The resident is actively involved in preoperative management of these patients and obtains considerable experience in the operative management of these disorders. Residents on the service also rotate through the offices of the joint-replacement attendings. Complementing the clinical service is a large full-time staff dedicated to the maintenance of a clinical database in which all joint-replacement patients are followed in prospective fashion. Many residents participate in clinical research projects that utilize this impressive database.

A large portion of the research efforts of the Department of Orthopedic Surgery are dedicated to joint-replacement surgery, with subsections in biomechanics, biomaterials, and molecular and cell biology. The Rush Joint Replacement Service represents one of the preeminent programs in the Midwest and the nation.

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## **Program in Pediatric Orthopedics**

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***Ken N. Kuo, M.D., Director, Rush-Presbyterian-St. Luke's Medical Center***

***John P. Lubicky, M.D., Chief of Staff, Shriners' Hospital for Crippled Children-Chicago Unit***

The Pediatric Orthopedic Service at Rush-Presbyterian-St. Luke's Medical Center offers a broad inpatient and outpatient experience in all musculoskeletal diseases of childhood. The service manages a wide variety of congenital, metabolic, endocrinologic, and traumatic disorders through inpatient consultations, clinic referrals, and emergency room admissions. Residents are involved in all aspects of patient care from diagnosis to operative intervention. The service also performs reconstructive surgery in young adults with continuing pediatric problems, including various types of osteotomy. The Ilizarov apparatus is also commonly used for leg-length discrepancies, bone defects, and angular deformities.

The Shriners' Hospital for Crippled Children-Chicago Unit is a 60-bed pediatric specialty hospital that places major emphasis on the treatment of orthopedic conditions. The hospital is staffed by three full-time, fellowship-trained pediatric orthopedists complemented by an extensive staff of part-time orthopedic surgeons. The pediatric orthopedic patients have an array of orthopedic problems, some common and some rare.

Residents rotate through three services and participate in patient evaluation, pre- and postoperative care, and operative procedures. Teaching conferences include an indication conference, two x-ray conferences, one spine conference per week, and journal club and didactic sessions in general pediatric orthopedics. This program is supplemented by grand rounds at the Chicago Unit each month.

The medical staff of the Chicago Unit is dedicated to providing quality pediatric orthopedic care to its patients, educating orthopedic residents and fellows, and conducting clinical research in the field of pediatric orthopedics.

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## Rush Arthritis and Orthopedics Institute

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### **Jorge O. Galante, M.D., Director**

The Department of Orthopedic Surgery emphasizes interdisciplinary programs in research and selected areas of patient care. To that end, the Rush Arthritis and Orthopedics Institute was created in 1994 to develop and consolidate coordinated programs of research and patient care in the musculoskeletal field. The Department of Orthopedic Surgery, Department of Biochemistry, and the Section of Rheumatology participate in the Institute. The Director is Dr. Jorge O. Galante, past Chairman of the Department of Orthopedic Surgery, who has been appointed as the Grainger Director.

Dr. Galante continues to maintain an active role in the clinical and research activities of the Department of Orthopedic Surgery.

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### **Section of Orthopedic Oncology**

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### **Steven Gitelis, M.D., Director**

The Section of Orthopedic Oncology is responsible for the diagnosis and treatment of musculoskeletal neoplasms, which include soft-tissue tumors, primarily of the extremities, and primary bone tumors. The section sees approximately 100 new tumor patients per year.

The management of primary bone and soft-tissue tumors emphasizes the concept of limb salvage. The approach is to remove the neoplasm and reconstruct the limb to



provide return of function. Limb salvage requires extensive knowledge and experience in bone transplantation, prosthetic replacement, and tumor biology. In addition to the clinical care of patients with musculoskeletal tumors, the section has developed a broad-based research program. Clinical research is being performed in tumor biology and diagnosis. Basic-science research is being done in the area of tumor biology, using tissue-culture methodology and animal models.

The Section of Orthopedic Oncology is comprised of one full-time orthopedic attending surgeon and an orthopedic oncology nurse clinician. Residents and medical students rotate through the service on a regular basis. Elective clerkships in orthopedic oncology can be arranged for senior medical students. Finally, the Section of Orthopedic Oncology has at present a postdoctoral fellow working both in the clinical care of oncology patients and in the research laboratory. A weekly pathology conference is held each Friday in the pathology department. A biweekly sarcoma management conference is also held.

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### **Section of Orthopedic Research**

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***Thomas P. Andriacchi, Ph.D., The Claude N. Lambert, M.D.-Helen S. Thomson Professor of Orthopedic Surgery and Director***

The research program in the Department of Orthopedic Surgery is divided into three basic-science categories: biomechanics, biomaterials, and biochemistry. The common goal that links these diverse scientific disciplines is their association with the prevention, treatment, and understanding of musculoskeletal diseases. Researchers in each of these basic-science disciplines interact with clinicians to address both basic and clinically relevant research problems. The educational aspects

of the program include pre- and postdoctoral training and basic sciences for orthopedic residents and clinical fellows. More than 30 technical and professional staff members are involved in orthopedic research. Seminars and projects are carried out in close collaboration with the departments of biochemistry, rheumatology, and pathology, as well as several universities and the National Institutes of Health.

The following is a description of the basic research program:

(1) Biomechanics Program—Thomas P. Andriacchi, Ph.D., Director. The biomechanics program applies basic principles from mechanics to the study of the human musculoskeletal system. Current research activities include the functional analysis of patients treated with various types of total-joint replacement. Studies are continuing on sports-related injuries and the use of biomechanical functional evaluation to analyze various injuries and treatment modalities. The laboratory also uses analytical techniques to model the musculoskeletal system mathematically.

(2) Biomaterials Program—Jorge O. Galante, M.D., Director. The use of titanium materials attached by a bone ingrowth to replace defects in the skeletal system has been a noteworthy development from our laboratories. Factors that control bone ingrowth and remodeling are under investigation. A new program is under way in the department to quantitate specific mechanical parameters and their relationship to a biological response in bone. There is also an ongoing study of the metal ion released from various implant materials to calculate potential toxic or carcinogenic effects of the metals in the body.

(3) Biochemistry Program—Tibor Glant, M.D., Ph.D., Director. The primary emphasis of this program has been on the biosynthesis of proteoglycan factors influencing cartilage. It is believed that an understanding of the molecular

mechanisms of this process will lead to improved treatment for degenerative diseases, such as osteoarthritis.

Low molecular weight proteins extracted from cartilage are also being studied. Research is being done on the molecular organization of the extracellular cartilage matrix, including changes that occur during the differentiation of epiphyseal cartilage, calcification, and replacement by bone and during osteoarthritic lesions. Current studies concentrate on the separation and characterization of the anti-invasion factor, its mechanism of action, and the biochemistry of the specific growth inhibitory factor.

Current research programs also include molecular biology and molecular immunology of cartilage matrix components, isolation and characterization of proteoglycan-specific T-cell clones and monoclonal antibodies with arthritogenic potential, cartilage transplantation, and the study of bone resorption following joint replacement.

Inquiries regarding the program should be directed to the program director.

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### **Section of Spinal Surgery**

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#### **Ronald L. DeWald, M.D., Director**

The Section of Spinal Surgery is dedicated to patient care, resident education, and clinical research. Diagnosis and treatment are rendered for a wide variety of spinal afflictions, including deformity, tumors, infections, fractures, and degenerative and metabolic diseases. Approximately 700 new spinal patients are evaluated each year, providing a broad base for resident education. Four to six spinal operations are performed each week, employing the latest techniques and instrumentation.

The Section of Spinal Surgery emphasizes the team approach to patient care. The section is comprised of four orthopedic spine sur-

geons and three clinical nurse specialists. The section also offers three fellowship positions for board-eligible orthopedic surgeons. Residents become part of the team and are expected to be active participants in patient care. Resident participation includes diagnostic evaluation in an office setting, pre- and postoperative care in the hospital, and surgical responsibility in the operating room. Residents assume an increasing role in patient care commensurate with their ability and interests.

Daily rounds are conducted by the attending staff to provide residents with exposure to bedside diagnostic skills and teaching. The Section of Spinal Surgery is an integral part of the Department of Orthopedic Surgery. The residents continue to attend grand rounds, teaching conferences, and training programs.

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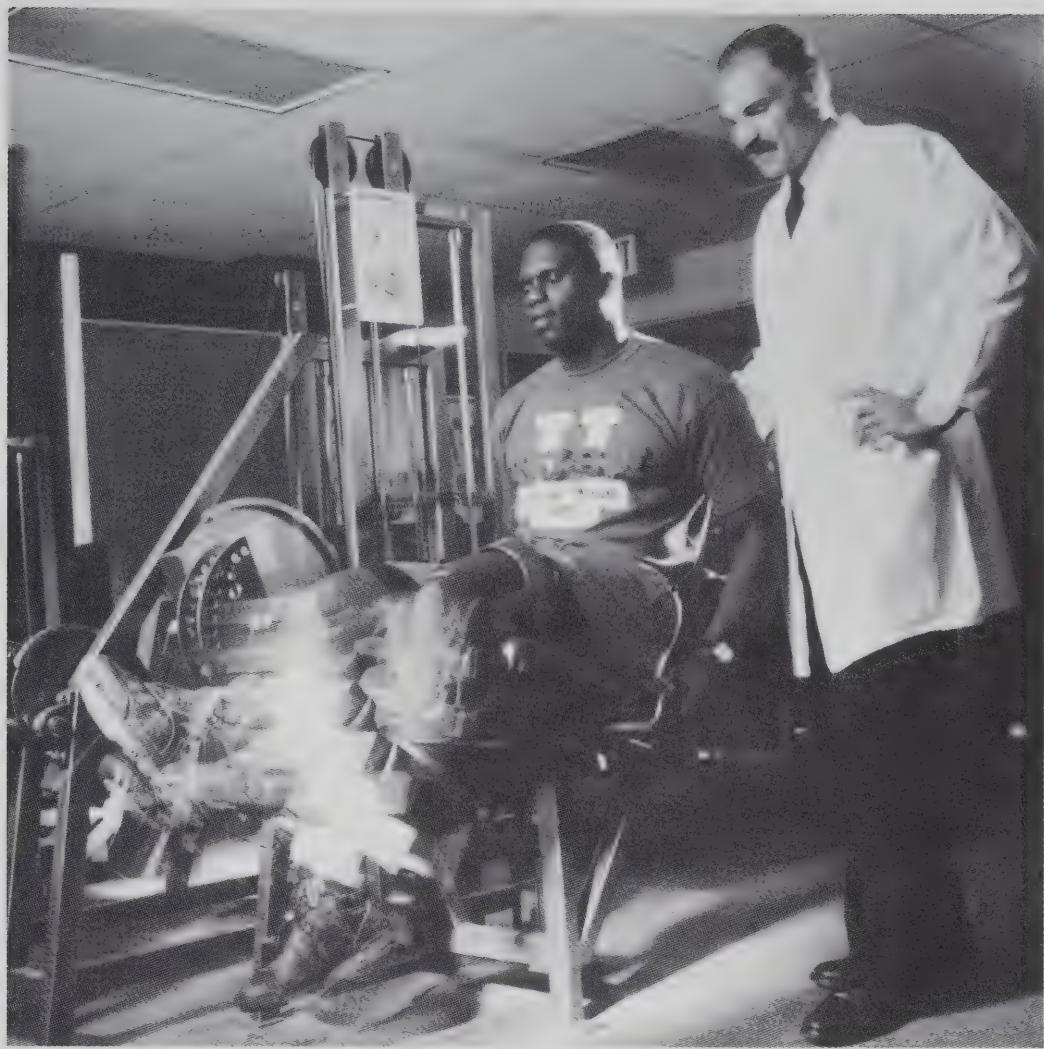
### **Section of Sports Medicine**

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#### **Bernard R. Bach, Jr., M.D., Director**

The mission of the Section of Sports Medicine is to achieve regional and national recognition and leadership in the care of athletes at all levels of skill, in all sports, and of all ages. Patient care, clinical and basic science research, and resident and fellow education comprise the foundation of the program.

Clinical problems are cared for by two full-time orthopedic sports medicine surgeons, two orthopedic fellows, one primary care sports medicine fellow, an office-based orthopedist, an office-based primary care physician, a nurse clinician, and numerous certified athletic trainers. Clinical problems, such as meniscal tears, anterior cruciate ligament (ACL) and other ligament injuries, patellofemoral disorders, shoulder instability, impingement syndrome, rotator cuff tears, and shoulder arthritis are the major clinical entities encountered in our office



practices. Stress fractures, overuse syndromes, foot and ankle pathology, and athletic trauma (fractures) are also treated. Our two full-time orthopedists have nearly 6,000 office visits annually, and they perform more than 600 surgical cases yearly. State-of-the-art arthroscopic knee ligament and shoulder reconstruction procedures are performed by members of the staff, who emphasize current principles of nonsurgical and postsurgical rehabilitation.

The section holds a weekly sports medicine conference for residents and fellows, along with a weekly reading club. The section also conducts continuing education sports medicine courses for primary care physicians, physical therapists, and athletic trainers, and holds arthroscopy workshops. Rotations for visiting international fellows, visit-

ing residents, and medical students are available. Residents and fellows have the opportunity to provide event coverage for local high school and club sports, thus expanding their educational experience as well as providing much-needed preventive medicine.

Clinical research among knee and shoulder surgery patients is being conducted. Use of the KT-1000 arthrometer to objectify pre- and postreconstruction knee laxity indices continues to be investigated. Biomechanical gait analysis studies are being conducted on ACL-deficient and ACL-reconstructed patients. Studies of keratin sulfate proteoglycan correlated with arthroscopic pathology and investigations of new models for arthritis are being evaluated.

## **Department of Otolaryngology and Broncho- esophagology**

**David D. Caldarelli, M.D.,  
The Stanton A. Friedberg, M.D.,  
Professor and Chairman**

The Department of Otolaryngology and Bronchoesophagology offers a five-year residency fully accredited by the Accreditation Council for Graduate Medical Education. The training program consists of one resident per year. The first year of training is in general surgery and the remaining four years are in otolaryngology. Under the direct supervision of the full-time and part-time attending staff, residents assume full responsibility for preoperative, operative, and postoperative patient care. Within the department are the sections of Pediatric Otolaryngology, Head and Neck Surgery, Head and Neck Reconstruction, and Skull Base Surgery, as well as the Section of Communicative Disorders and Sciences.

At network and area hospitals, separate clinical and surgical rota-

tions supplement the clinical experience with patients who have facial plastic and head and neck oncologic disorders and pediatric otolaryngologic patients.

Hospital admissions are approximately 300 patients annually, with an average daily census of approximately 10. In line with recent changes in health-care delivery, many otolaryngology surgical procedures are performed on an outpatient basis.

The outpatient Otolaryngology Clinic, held four days per week, averages approximately 7,200 outpatient visits per year. In addition, there is a weekly multidisciplinary tumor clinic staffed in conjunction with the Department of Radiation Oncology and the Section of Medical Oncology. The more than 2,500 surgical procedures performed in the department annually provide residents with experience in microscopic otology, head and neck oncology, craniofacial anomaly, maxillofacial traumas, head and neck reconstruc-



tive surgery, facial plastic surgery, and bronchoesophagology. Extensive head and neck laser and cryosurgery experiences are also available.

Resident exposure to basic laboratory and clinical research is provided and currently involves assessment of chronic middle ear disease, the cytologic aspects of head and neck tumors, the pathophysiology of sleep apnea syndrome, the role of bone morphogenetic protein to accelerate bone formation in myopériosteal flaps, and the effect of electromagnetic stimulation on recurrent laryngeal nerve regeneration in a canine model.

In conjunction with the Department of Pathology, several biologic markers, including cytokeratin K19 and nucleolar organizing regions, are being investigated and correlated with flow cytometry as predictors in head and neck cancers. In addition, studies to determine the prevalence and therapeutic significance of p53 mutations have been started.

In conjunction with the Department of Radiation Oncology and the Section of Medical Oncology, the efficacy of adjunctive chemotherapy in head and neck cancer is being studied. In addition, studies on growth and alteration in head and neck tumors are being conducted with the Rush Cancer Institute.

The Section of Communicative Disorders coordinates the evaluation of speech and swallowing disorders in head and neck cancer patients, and these patients receive comprehensive rehabilitation services. Speech and swallowing outcomes are evaluated by a variety of means, including videofluoroscopy, videoendoscopy, and videostroboscopy.

Residents are allotted a three-month period of research time to begin a clinical or basic research project leading to presentation at national specialty meetings and pub-

lication in otolaryngology scientific journals. Each resident is afforded the opportunity to attend a national specialty meeting or postgraduate medical education course in each year of training.

Fellowships are offered in head and neck oncology and endoscopic sinus surgery.

Inquiries concerning the program should be directed to the department chairman.

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## Section of Communicative Disorders and Sciences

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**Dianne H. Meyer, Ph.D., Director**

The Section of Communicative Disorders is an integral part of the Department of Otolaryngology and Bronchoesophagology. More than 5,000 patients (neonatal through geriatric) are seen annually for audiolologic assessment, vestibular assessment, hearing aid fitting, aural rehabilitation, speech/language evaluation or therapy, and voice evaluation or therapy. Rotations through the section can be arranged to include case observation and tutorial sessions.

The second-year otolaryngology resident spends one full month in the section during that year. In addition, formal lectures, case studies, and in-services are provided to otolaryngology residents throughout the academic year. Lecture and discussion topics include auditory/vestibular, anatomy and physiology, hearing science, principles and interpretation of audio vestibular testing, impedance audiometry, amplification and rehabilitative audiology, and auditory-evoked potentials. Other topics include dysphagia, videofluoroscopy, videostroboscopy, electroneuronography, speech physiology, and the neurogenic aspects of speech and language.

## **Department of Pathology**

**Meryl H. Haber, M.D.,  
Borland Professor and  
Chairman**

**Melvin M. Schwartz, M.D.,  
Co-Director, Residency Training  
Program**

**Robert DeCresce, M.D.,  
Director, Rush Medical  
Laboratories, and Co-Director,  
Residency Training Program**

The Department of Pathology offers a five-year residency in anatomic and clinical pathology fully accredited by the American Medical Association. Optional one- to two-year fellowships are offered for additional training in surgical pathology subspecialties, clinical pathology, or research. On completion of training, all residents are qualified for examination by the American Board of Pathology.

The objective of the program is to provide residents with in-depth education in all facets of modern diagnostic pathology and laboratory management. The program is intellectually intensive. Residents are expected to master both theoretical and practical material. One goal of the program is to train pathologists who compete for outstanding positions in either academic or community medical centers and who have the requisite training to assume a leadership role in their profession.

The training involves a three-year core experience with an additional two years of in-depth experience in selected specialty areas and research. The core experience provides the resident with an introduction to all facets of anatomic and clinical pathology and exposure to a broad range of case material. In addition to rotations in surgical pathology, cytopathology, and autopsy pathology, the resident rotates through all of the major clinical pathology laboratories. Although the strength of the Rush program has traditionally been disproportionate in anatomic pathology, this orientation has changed in recent years. Clinical pathology at Rush has emerged as a strong discipline. The program

is structured so that there are anatomic and clinical pathology rotations in each of the first four years. Time is allocated for electives so that residents can begin to explore areas in which special competency training may be acquired in the fifth year of training. In addition to the usual rotations of a pathology resident, this program offers a unique rotation in laboratory management and informatics.

All rotations include participation in numerous clinical and teaching conferences. The Department of Pathology at Rush plays a central role in the educational programs of many other clinical departments. These educational activities afford pathology residents abundant opportunities to gain skills as clinical consultants.

Residents electing to pursue anatomic pathology or clinical pathology exclusively select a research topic and begin investigative work under the supervision of senior investigators. Excellent research opportunities are offered in electron microscopy, cytopathology, cancer biology, and medical informatics. Research-oriented residents are encouraged to attend basic-science seminars and lectures, take relevant course work for purposes of enrichment, and attend national meetings. Because the research laboratories are close to the service laboratories and the library of Rush University, residents can monitor the activities of the laboratory services while engaged in research programs. This opportunity permits residents to study material from a large number of interesting and unique cases throughout their training. In addition to the broad-based training offered at Rush-Presbyterian-St. Luke's Medical Center, electives can be arranged at other Chicago institutions in forensic pathology and pediatric pathology.

Inquiries concerning the program should be directed to one of the program co-directors.



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## Department of Pediatrics

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**Samuel P. Gotoff, M.D.,  
Woman's Board Professor of  
Pediatrics and Chairman;  
Director, Pediatric Residency  
Program**

The Department of Pediatrics is engaged in patient care, teaching, and research. Clinical programs range from neonatal and pediatric intensive care to secondary and tertiary care on general inpatient units and a variety of ambulatory care programs.

The department's research includes the following: classification of sepsis in the pediatric intensive care unit, developmental changes in the hypothalamic-pituitary-adrenal axis, effectiveness of ketamine for sedating critically ill patients, hyperlipidemia in chronic renal failure, in utero cocaine effect on postnatal respiratory control, intestinal factors that control liver function, long-term neurodevelopment follow-up of

intracranial hemorrhage and periventricular leukomalacia in premature infants, molecular biology of cardiac growth and development, molecular biology of fragile X syndrome, pain management of hospitalized children, gene therapy in hemophilia B, prevention of lead poisoning, methylenetetrahydrofolate reductase in patients with coronary heart disease, pathogenesis of necrotizing enterocolitis, role of estrogen in normal bone growth, three-dimensional reconstruction of noninvasive cardiac images, treatment of childhood malignancies, treatment of congenital toxoplasmosis, tumor cell gangliosides as modulators of the metastatic process, ventilator weaning criteria to pediatric patients, and ventricular function after cardiac surgery.

The Department of Pediatrics offers a three-year residency program leading to certification by the

American Board of Pediatrics. Our goal is to provide a broad and in-depth pediatric educational experience that will allow residents the opportunity to develop their skills, knowledge base, and intellectual approach to patients in order to prepare for general pediatric practice or subspecialty fellowship training.

Thirteen residents are matched each year. Residents staff the inpatient and intensive care units, pediatric emergency department, and continuity of care clinic. They rotate through an HMO and private pediatricians' offices and through the Rush subspecialty clinics, Shriners' Hospital for Crippled Children, Misericordia Hospital for severely handicapped children, and Illinois Masonic Medical Center.

The Pediatric Residency Program is based on the philosophy that there is a logical progression of skills that should be mastered during each year of pediatric training. The first year emphasizes the acquisition of information-gathering skills (history-taking and physical examination), identification of problems, assessment of the degree of illness, mas-

tery of technical skills, and learning to care for children with acute and chronic diseases. For the most part, these experiences take place on inpatient services under the supervision of senior residents and faculty. There are additional rotations in psychology and development, pediatric surgery, and ambulatory pediatrics during the first year.

Second-year residents are then prepared for independent management of diverse and unselected pediatric problems in acute-care and emergency-room settings. In the second and third year, residents elect subspecialty areas for in-depth study. Except for neonatal intensive care and critical care pediatrics, specific subspecialty rotations are not required. Elective rotations are available in every subspecialty and sufficient elective time is provided to fulfill residency review requirements.

The third year of pediatric training emphasizes supervision of inpatient units, responsibility for patients with the most complex problems, and interaction with consultants and other members of the health-care team. Third-year residents are



expected to stabilize and transport acutely ill newborn infants and older children to the medical center. In addition, senior residents are responsible for teaching interns, medical students, and family practice residents from Rush and other Chicago hospital programs. A fourth-year chief resident with special skills in patient care and teaching is chosen to oversee and supervise academic and clinical activities.

Each resident participates in a continuity of care clinic half a day each week during the three years of residency. Under the supervision of a general pediatric preceptor, residents care for well children who require health maintenance and children with acute or chronic medical problems. The residents establish relationships with their patients and are responsible for their care throughout the residency. Each session begins with a conference on a primary care topic as guided by an established curriculum.

Night and weekend call comes every fourth or fifth night throughout the three years. On average, residents are free of hospital responsibilities one full weekend in every four. There is a call-free rotation in the first and third year. Each year, residents get three weeks of vacation (usually divided into two parts) and one week for educational leave to pursue in-depth study or attend a meeting.

The teaching program consists of a morning report, attending rounds, chief-of-service rounds, grand rounds, and daily didactic sessions. Introductory lectures in pediatrics are given during the summer. The lecture/conference series includes pediatric medical and surgical subspecialty topics as well as topics in research, the basic sciences, and ethics; morbidity and mortality conferences; and a journal club. The teaching program emphasizes the problem-oriented medical record as a tool to organize an approach to complicated pediatric patients. Thus, a lifelong approach to learning and an analyti-

cal way of thinking about patients is systematically taught in addition to traditional didactic material.

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## Division of General Pediatrics

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***Anthony J. Richtsmeier, M.D.,  
Director***

The Division of General Pediatrics is made up of the sections of adolescent medicine, behavioral pediatrics, pediatric emergency medicine, and general pediatrics, including the normal newborn nursery and outpatient services.

The focus of the Section of Adolescent Medicine, headed by Gary Strokosch, M.D., is comprehensive health care for patients who are approximately 12 to 21 years of age. Outpatient teen clinics and the adolescent inpatient population provide the settings for training in this field. The section takes special interest in eating disorders and other psychosocial and medical problems specific to this age group.

The Section of Behavioral Pediatrics services a wide variety of pediatric problems that have a strong psychobehavioral connection. Special emphasis is placed on integrating psychosocial and biological factors in the assessment and care of children and families. Behavioral pediatrics works closely with the Section of Pediatric Psychology, is active in teaching, and offers electives to house staff and students. A major focus of the section involves pediatric pain management.

The Section of Pediatric Emergency Medicine, headed by Jane Kramer, M.D., provides care to approximately 12,000 pediatric patients annually. The program is designed to prepare residents to provide for the acute-care needs of children and adolescents. Residents in pediatrics, family practice, and emergency medicine obtain training in the Rush pediatric emergency department. Residents are directly supervised by

pediatric faculty and given continuous support from the medical center's consultative services.

The Section of General Pediatrics also coordinates patient care and house staff training in the newborn nursery and resident continuity of care clinic, and general pediatric care in the ambulatory setting.

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### **Section of Allergy/Clinical Immunology**

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**Anita T. Gewurz, M.D., Director**

The Allergy/Clinical Immunology Program is a combined pediatric/internal medicine training program that emphasizes care of patients with allergic, autoimmune, and immunodeficiency disorders. Patients are seen in an outpatient clinic and on inpatient pediatric and medicine units of Rush-Presbyterian-St. Luke's Medical Center. Research opportunities are available in the Department of Immunology/Microbiology in a variety of areas, including the biology of the allergic response, host defense mechanisms, acute-phase proteins, and complement. Elective rotations are available for residents, and a two- or three-year fellowship program has been approved by the American Board of Allergy and Immunology.

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### **Section of Gastroenterology and Nutrition**

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**Richard Sandler, M.D., Director**

The Section of Gastroenterology and Nutrition evaluates and manages the full range of gastroenterologic, hepatologic, and nutritional problems in children, including pediatric liver and bowel transplants. The resident's clinical experience includes diagnostic procedures, such as endoscopy and liver biopsy, and consultation on the inpatient intensive care unit for ambulatory patients and on a busy pediatric

nutritional service. The section also trains pediatric residents and medical students and conducts research on neonatal necrotizing enterocolitis.

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### **Section of Genetics, Endocrinology and Metabolism**

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**Paul Wong, M.D., MSC, Director**

This section provides clinical care, resident and medical student training, and an active research component in genetics, metabolism, and endocrinology.

Clinical training in genetics and metabolism includes evaluation and treatment of infants and children with physical malformations, mental retardation, metabolic disorders, and other inherited diseases, as well as counseling for couples with abnormal children, recurrent miscarriages, fertility problems, or a history of genetic disorders. Laboratory training includes chromosome studies in blood, bone marrow, amniotic cells, and CVS, as well as biochemical studies. Research activities focus on the pathophysiology of homocysteine in vascular diseases.

Inpatient consultation and outpatient clinics in pediatric endocrinology provide services for children with diabetes mellitus, growth disorders, ambiguous genitalia, and other endocrinologic problems, under the supervision of Mary Kreiter, M.D.

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### **Section of Infectious Diseases**

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**Kenneth M. Boyer, M.D., Director**

The management of children with infectious diseases is the most frequent problem facing practicing pediatricians. The Section of Infectious Diseases offers consultation in the management of children with serious infections and diagnosis of problems likely to have an infectious etiology. Residents provide consul-

tations under the supervision of pediatric infectious disease faculty members, participate in daily rounds and two weekly conferences, teach pediatrics to elective students, and are encouraged to study their patients in-depth. Residents may also elect to spend four weeks in a small-scale independent research project that emphasizes the development, analysis, and presentation of clinical or epidemiologic data. Residents on elective rotation are encouraged to become familiar with the section's ongoing research program on chemotherapy for congenital toxoplasmosis.

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## Section of Intensive Care

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### **William Hayden, M.D., Director**

The Section of Intensive Care provides evaluation and treatment of the very sickest hospitalized children. The 16-bed pediatric intensive care unit draws patients from hospitals throughout the metropolitan Chicago area. The training program prepares the resident to take care of severely ill children by emphasizing initial evaluation, a systematic approach to the organization of care, and resuscitation efforts. Training in technical skills is also emphasized.



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## **Section of Neonatology**

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### ***Robert Kimura, M.D., Director***

The Section of Neonatology provides medical, surgical, and follow-up care for inborn and transferred neonates. The Special Care Nursery at Rush-Presbyterian-St. Luke's Medical Center admits approximately 450 babies a year.

The Rush Perinatal Center serves 11 designated hospitals that perform 21,000 deliveries a year in the northeastern Illinois region. Patients in the Rush perinatal network are admitted to a level III nursery via a highly specialized transport system for high-risk mothers and their sick infants.

Pediatric, obstetric, anesthesiology, and family practice residents rotate through the newborn service at Rush. The section emphasizes patient care and educational programs tailored to the year of training. There is an active research program and strong specialty service support.

A long-term, multidisciplinary follow-up program includes social services, psychology, physical and occupational therapy, neurology, and other required subspecialties. Much of the ongoing care for these high-risk infants is provided by the residents through the continuity of care clinics.

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## **Section of Pediatric Cardiology**

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### ***Anthony Cutilletta, M.D., Director***

The Section of Pediatric Cardiology provides extensive multidisciplinary programs in pediatric cardiovascular disease. The section services a network of referring hospitals and physicians in the Chicago metropolitan area. Innovative high-quality care is provided both in an inpatient and outpatient setting. All members of the section participate in both undergraduate and graduate medical education programs. The curriculum covers both the inpatient and outpa-

tient evaluation and care of pediatric heart disease as well as invasive and noninvasive diagnosis. Training is provided through the inpatient service, clinical and teaching conferences, and the ambulatory care units.

The resident may also participate in various research activities, including the molecular biological study of cardiac growth and development, the assessment of ventricular function after cardiac surgery, and parathyroid function in DiGeorge Syndrome.

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## **Section of Pediatric Hematology/Oncology**

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### ***Alexander M. Green, M.D., Director***

The Section of Pediatric Hematology/ Oncology provides inpatient and outpatient care of children with serious disorders of the blood and malignant tumors. Patients with leukemia and solid tumors are treated under regimens directed by the Pediatric Oncology Group. Residents may elect to participate in the bone-marrow transplant program. Research is concentrated on the biology of tumor metastasis.

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## **Section of Pediatric Nephrology**

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### ***Jonathan Heiliczer, M.D., Director***

Activities in this section include both diagnostic and therapeutic management of all renal problems seen in children, ranging from those of a structural nature to those of immunologic import. Implicit in this program is close liaison with the urology service in an effort to provide an integrated approach to small children with congenital or acquired structural abnormalities. Acute as well as chronic peritoneal dialysis and hemodialysis are available in addition to an active renal transplant program.

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## **Section of Pediatric Neurology**

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**Peter T. Heydemann, M.D.,  
Director**

The Section of Pediatric Neurology offers postgraduate training for residents in pediatrics, neurology, family practice, neurosurgery, and psychiatry. Electives are designed to meet the needs of the varied backgrounds and interests of the individual house officers. Responsibilities may include inpatient management, child neurology consultations (for outpatient care, child neurology visits, and care of multiply handicapped children, e.g., children with meningomyelocele), and clinical care in the muscular dystrophy clinic. Regular conferences offer opportunities for didactic learning as well as resident presentations.

The Center for Learning and Social Competence, a diagnostic and research program for children with nonverbal learning disabilities, has recently been established.

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## **Section of Pediatric Psychology**

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**Michael Nelson, Ph.D., Director**

Psychologists in this section service the pediatric patient from infancy through young adulthood on both an inpatient and outpatient basis. A broad range of diagnostic, therapeutic, and consultative services emphasizes early assessment and intervention, family involvement, and close collaboration with medical and other health-care staff.

The faculty, an interdisciplinary group of clinical and developmental psychologists, is responsible for teaching the developmental/psychosocial curriculum of the pediatric residency training program. In addition to the educational opportunities inherent in the collaborative patient care that characterizes the pediatric service, formal training activities in developmental, psychosocial, and

behavioral aspects of patient care are provided in a required subspecialty rotation.

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## **Section of Pediatric Surgery**

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**Deborah Loeff, M.D., Director**

This section provides care for the full spectrum of neonatal and pediatric surgical problems. Pediatric residents rotate through the surgical service, allowing them an opportunity to observe and participate in common pediatric surgical procedures. Perioperative management of intensive-care, neonatal, and general pediatric inpatients is an important part of the pediatric resident's training.

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## **Section of Pulmonary Diseases**

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**Debra E. Weese-Mayer, M.D.,  
Director**

This section provides care for children with acute and chronic pulmonary disease. The Center for SIDS Research and Disorders of Respiratory Control is dedicated to the evaluation of infants at risk for sudden infant death syndrome and patients with obstructive sleep apnea, apnea of infancy, apparent life-threatening events, apnea of prematurity, and alveolar hypoventilation. Patients are also evaluated for use of diaphragm pacemakers. The center follows the world's largest pediatric population of patients with idiopathic congenital central hypoventilation syndrome and patients with diaphragmatic pacemakers.

The research interests of faculty members include evaluation of infants at high risk for SIDS with documented monitoring, the mechanism for control of breathing in children with central hypoventilation syndrome, the physiologic and histochemical effects of diaphragm pacing, and the effects of prenatal cocaine on postnatal respiratory control.



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## **Department of Physical Medicine and Rehabilitation**

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### ***John J. Nicholas, M.D., Professor and Program Director***

The Department of Physical Medicine and Rehabilitation provides postgraduate resident training in physical medicine and rehabilitation through both a three-year specific physical medicine and rehabilitation program and a four-year integrated program.

Residents who wish to enter the three-year specific program will obtain a postgraduate (PGY-1) transitional year of residency at an institution of their choice; those who wish to enter the four-year integrated program will obtain one of the positions reserved for physical medicine and rehabilitation residents in Rush's Department of Internal Medicine.

The transitional year, which is part of Rush's four-year integrated program, consists of eight months of internal medicine, two months of neurology, and two months of rheumatology. The residency program provides a wide variety of patient care experiences at Rush

and its affiliated institutions. Graduates will be thoroughly prepared to treat rehabilitation patients with a wide variety of problems. A resident may also use the program to build a foundation for an academic or a research career.

Residents are educated at Rush and several affiliated institutions. The Department of Physical Medicine and Rehabilitation at Rush has physician offices and outpatient facilities in the Professional Building and two inpatient units in the Johnston R. Bowman Health Center for the Elderly. The first is a 44-bed specific geriatric rehabilitation unit. This unit is one of a few in the United States designed specifically for rehabilitation of those over the age of 60. Physicians and therapists are all specially trained to provide care appropriate to the elderly. In addition, a 22-bed unit for adults (over the age of 18) offers care for all but pediatric patients.

Residents rotate through the Marianjoy Rehabilitation Center, a 110-bed freestanding rehabilitation

center in Wheaton, Ill. This institution has units for spinal cord injury, stroke, brain injury, pediatrics, pain management, and musculoskeletal and neurologic rehabilitation patients. It provides directly, or through collaboration, all levels of care. Two unique services are the Center for Occupational Rehabilitation and the Fitness Center for the Disabled. There are nine physiatrists on staff. The program has a well-established record of resident teaching and research activities.

Residents also rotate through Oak Forest Hospital, a county hospital with 65 rehabilitation beds and a strong faculty, located in a southern suburb of Chicago. Oak Forest Hospital has provided generous educational support for the training program.

Residents train at Rush Medical Center and Oak Forest Hospital in their first year. They then proceed through consultation services at Rush and categorical services at the Marianjoy Hospital. During their final year, they spend one rotation at Grant Hospital to experience an inpatient rehabilitation unit in a community hospital.

Residents obtain electromyographic experience in a four-month period, one-half of the time at Rush and one-half at MacNeal Hospital. Residents are taught by the neurology department at Rush in a didactic program tailored to their needs. They then spend an equal amount of time in practical hands-on electrodiagnostic studies under the care of physiatrists at MacNeal and other associated hospitals. Residents can plan to observe or perform 200 to 300 studies during their experience.

Training in prosthetics is undertaken at Rush, Marianjoy, and Oak Forest Hospital. In addition, residents see a large number of patients during inpatient rotations. A course based at the Hines V.A. Hospital provides third-year residents with a prosthetic course annually. Residents can expect to see a wide vari-

ety of amputees and become thoroughly acquainted with prescription writing and training of prosthetic patients.

Rush-Presbyterian-St. Luke's Medical Center has an unusually large group of neurologic patients with movement disorders. These patients, the majority of whom have Parkinson's disease or multiple sclerosis, are frequently transferred to the adult and geriatric units for rehabilitation.

Pediatric training is obtained in several areas. A two-month rotation at the Marianjoy Rehabilitation Center provides residents with inpatient and outpatient experiences. An additional two-month rotation at Loyola University Medical Center and at Shriners' Hospital provides experience with inpatients and outpatients. Residents attend muscular dystrophy and cerebral palsy clinics while on the electromyographic service at Rush.

Training in the care of spinal cord patients is obtained both at Oak Forest Hospital and Marianjoy Rehabilitation Center in the spinal cord units. These units have large patient populations, support groups, therapists, and fine physical facilities.

Training in the care of patients with closed head injuries is also provided at Marianjoy and Oak Forest Hospital. Residents obtain training in the care of stroke patients on the geriatric service at Rush, Marianjoy, and Oak Forest Hospital. A comprehensive stroke-care program has been organized in conjunction with the Department of Neurological Sciences at Rush, and it provides a better-than-usual experience in the acute-care and rehabilitation needs of stroke patients.

Residents are not required to perform a research rotation. They are strongly urged to prepare case reports and brief projects for podium or poster presentation at the annual meetings to which they will be sent. If a resident shows persistent interest in research, his or her projects

will be supported and equipment provided. When appropriate, a project may be designed in conjunction with Rush-Presbyterian-St. Luke's rehabilitation laboratory or with Marianjoy.

Residents obtain outpatient training at many sites during the residency program. There is a specific two-month rotation at the Marianjoy Rehabilitation Center in which only outpatient care is performed. At all other institutions, including Rush, residents attend their attending physicians' outpatient clinics. Prosthetic clinics are available and should be attended at all three institutions.

A consult service is run specifically for one or two rotations at Rush-Presbyterian-St. Luke's Medical Center. This consult service has been established for many years and is an extremely well-designed and useful training experience.

In addition to regular rotations, several didactic courses have been designed for the residents. In July and August of the first year (PGY-2), two afternoons a week are devoted to study and dissection of the limbs and back using cadavers in the Department of Anatomy at Rush University. This is an especially useful program for subsequent electromyographic experience. Later in the first year, a neuroanatomy course is given by the Department of Anatomy of Rush University. This course consists of brain-cutting experience as well as a newly developed computer-oriented three-dimensional neuroanatomy course. Courses in kinesiology, orthotics, and prosthetics are also provided.

Didactic programs have been established at three major affiliated institutions. At Rush, residents are expected to attend weekly chairman's rounds, journal club, patient case presentations, rehabilitation grand rounds, and various other activities, including stroke grand rounds. Prosthetic clinics and mus-

culoskeletal radiologic review sessions are held twice monthly.

Marianjoy Rehabilitation Center has established a weekly journal club, monthly grand rounds, and board review. Oak Forest Hospital has a weekly journal club and board review.

During the various rotations, residents have a one-on-one relationship with their attending physicians. Attending physicians formally evaluate each resident, and the residents evaluate their attendings. This relationship allows residents adequate exposure to their tutors for questions and referral to various resources.

The advantages of this residency program are many. They include wide patient experience. Training at diverse institutions prepares our residents for most contingencies of practice. Research experience is available for residents who wish to do research later on.

Since the teaching program involves several cooperative institutions, the faculty is large and readily available. All physical medicine and rehabilitation faculty members belong to a large private practice group (Rehabilitation Medicine Clinic, Inc.), and the support provided by this group is considerable. A monthly symposium supported by a multi-institutional Research and Education Consortium of Rush Medical College brings an outstanding guest lecturer to present a one-day lecture each month to four local cooperative residency programs. The Thursday Evening Lecture Series for PGY-2 residents also draws on faculty from Rush and Loyola University and is attended by residents in both residency programs. This cooperative effort is unique to a physical medicine and rehabilitation residency program. Chicago is a large metropolitan area with five residency programs that have cooperated in this venture. It is a real tribute to our specialty to have this many programs cooperating in resident education.

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## **Department of Plastic and Reconstructive Surgery**

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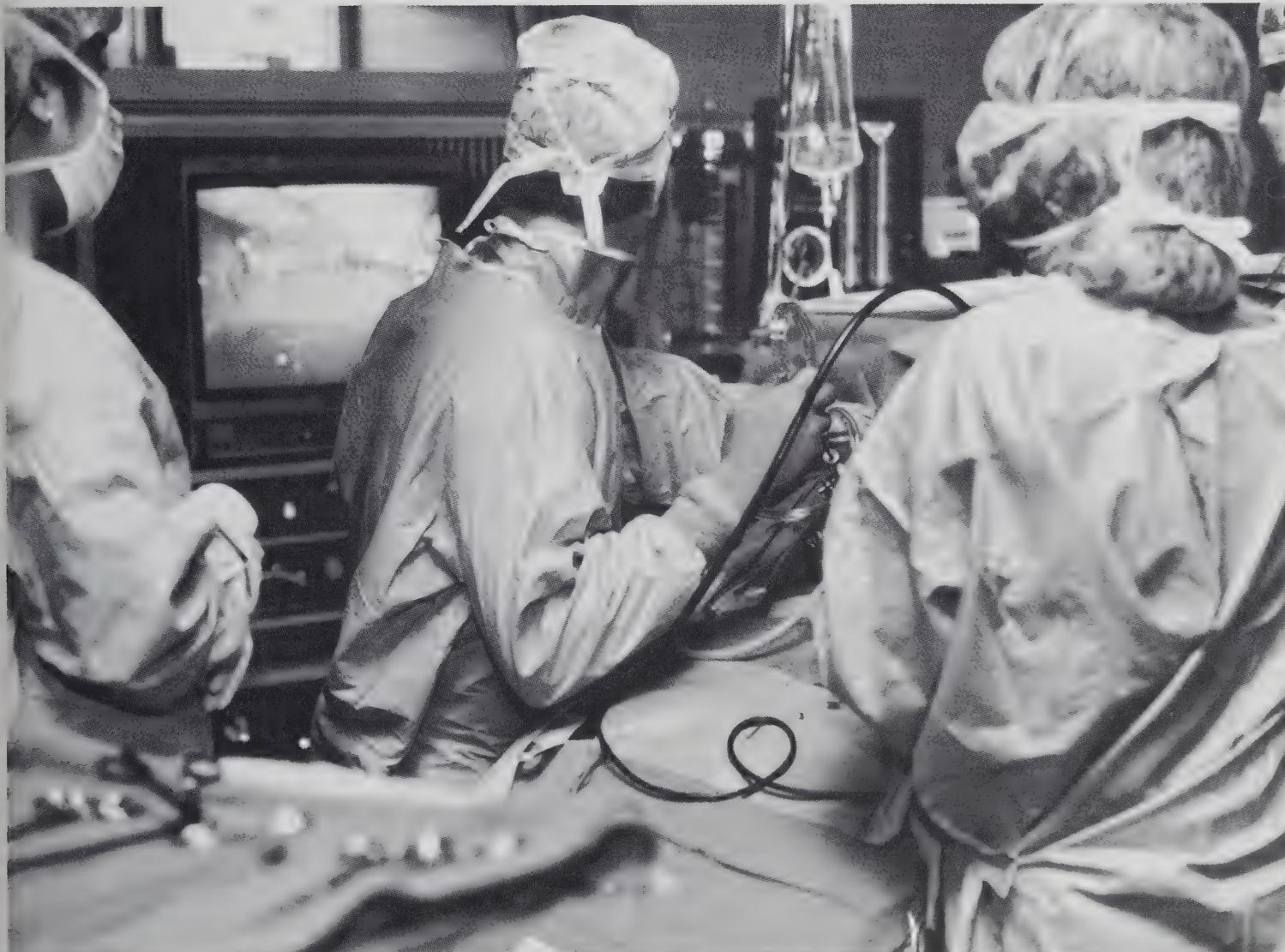
**Randall E. McNally, M.D.,  
Chairman**

This two-year graded training program in general plastic and reconstructive surgery is fully accredited by the Tripartite Conference Committee on Graduate Training sponsored by the American Medical Association, the American College of Surgeons, and the American Board of Plastic Surgery. To be considered for appointment, applicants must have completed a minimum of five years of acceptable training in general surgery that complies with the requirements of this service. Each year, one resident is selected to begin training.

At present, an average of more than 3,000 plastic surgery patients

are operated on annually at Rush-Presbyterian-St. Luke's Medical Center. Plastic surgery patients encompass a wide variety of ages and types. Residents are offered bed privileges and special operative times, and all of the patients in the hospital are available for teaching purposes.

Residents will be trained in overall preoperative surgical diagnosis and care, surgical treatment, and postoperative care of patients amenable to treatment by plastic surgery. Residents will gain more than adequate experience in the various methods of excisional and reparative surgery of the scalp, face, orbits, nose, oral cavity, neck, trunk, and extremities, as well as experience in management of neoplasms of



the head and neck, cosmetic surgery, facial trauma, surgery of the hand, burns, and congenital abnormalities of the extremities and genitalia.

Cooperation with other disciplines (orthopedics, general surgery, genitourinary surgery, gynecology, bronchoesophagology, and neurosurgery) allows exceptional experience in reconstruction of the esophagus, larynx, trachea, vagina, and abdomen, and the repair of extensive encephalocele, myelomeningocele, and severe craniofacial deformities.

Residents are given ample opportunity to perform major procedures under the supervision of the attending staff. Increasing ability brings increased responsibility. To help the resident acquire skill and judgment in all phases of work, the program places emphasis on personal instruction at the bedside, in the clinic, in the operating room, and in the pathology and anatomy laboratories. Active participation in research is mandatory. The program stresses participation in weekly grand rounds, tumor conferences, surgical research projects, hand seminars, and journal reviews. Residents also spend time each week in the private offices of the attending staff.

There is a separate hand clinic where acute and extensive reconstructive hand surgery cases are seen and operated on (see Section of Hand Surgery). A large caseload of cleft lip, cleft palate, and severe craniofacial anomalies is operated on by the plastic surgery staff and residents at Presbyterian-St. Luke's Hospital.

Increased emphasis within the department is being given to microvascular surgery, both in the operating room and in the research laboratory. Both junior and senior residents are afforded the opportunity to

attend major surgical meetings during the year. They are encouraged to present papers on their own or in conjunction with the attending staff. A resident will be given an appointment as instructor in the department for the entire training program.

Inquiries concerning the program should be directed to the chairman.

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## Section of Hand Surgery

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### **Robert R. Schenck, M.D., Director**

The Section of Hand Surgery encompasses all facets of the care of the hand, including care of traumatic, reconstructive, congenital, and rheumatoid problems, and it provides training in the microsurgical techniques needed for the more sophisticated aspects of hand reconstruction.

Dr. Schenck is assisted by hand surgery fellows, who spend a year under his direction, and by an orthopedic resident, who does a three-month rotation. Their duties are not only clinical, in that they participate in the preoperative selection, operative treatment, and postoperative management of patients in the office, but also educational and research oriented. They participate in the monthly hand surgery conferences and monthly hand problem case discussions in orthopedic grand rounds.

A strong component of the Section of Hand Surgery involves learning and refining microsurgical techniques in the laboratory and their application to research projects relating to improved methods of microvascular surgery. The laboratory is fully equipped with two operating microscopes and staffed by a full-time technician.

Inquiries should be addressed to the section director.

## **Department of Psychiatry**

**Jan Fawcett, M.D.,  
The Stanley G. Harris, Sr.,  
Professor of Psychiatry and  
Chairman**

The Department of Psychiatry offers a four-year program designed to educate residents by using a developmental model. In the course of their training, residents learn an integrative and thoughtful approach to the theory and practice of psychiatry that will prepare them to be creative, resourceful, and effective clinicians and researchers throughout their careers.

Teaching in the department occurs both in the classroom and in clinical settings. The faculty includes more than 75 psychiatrists with a very broad range of backgrounds and interests who actively participate in seminars, lectures, individual supervision, and clinical teaching on all rotations. The accessibility and energy of the faculty offer a collegial and stimulating context for learning.

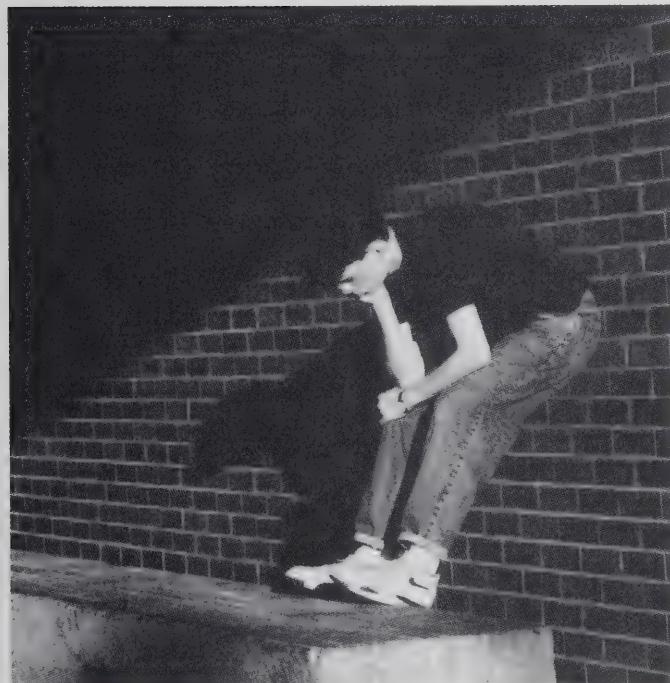
The content and process of the resident's educational experience are structured to achieve a balanced and complete knowledge base, emphasizing the understanding and appropriate integration of both psychodynamic and biologic psychiatry. Prominent experts in psychoanalysis, psychotherapy, psychopharma-

cology, and behavioral neurology are directly involved in teaching, and residents acquire competence and sophistication in their clinical work. With the solid foundation of the early years of training, residents are well prepared to follow their particular interests within the field both in advanced electives as senior residents and in postgraduate fellowships as well as throughout their careers.

Supervised research opportunities, particularly clinical research, are abundant in the department under the auspices of the Rush Institute for Mental Well-Being and the Treatment Research Center. Other well-developed subspecialty areas for both training and research include forensic psychiatry, chemical dependency, psychopharmacology, dissociative disorders, child psychiatry, geriatric psychiatry, suicidology, and consultation-liaison psychiatry. An elective track in intensive psychodynamic psychotherapy is also available.

The department has approximately 100 inpatient beds, including beds in three general psychiatry units, a geriatric psychiatry unit, and a child psychiatry unit within Rush-Presbyterian-St. Luke's Medical Center. At Rush North Shore Medical Center, the department has another 31-bed adult inpatient unit and a 15-bed dissociative disorders unit. Psychiatric outpatient services at Rush include child and adult outpatient clinics, a partial hospitalization program, and a children's Therapeutic Day School, as well as other outpatient specialty services. In this context, residents also receive education and experience in the workings of the health-care delivery system as part of their preparation for their future clinical careers.

Inquiries should be addressed to the Residency Program Director, Department of Psychiatry.



## **Department of Psychology and Social Sciences**

**Rosalind D. Cartwright, Ph.D.,  
Chairman**  
**Martita Lopez, Ph.D.,  
Director of Clinical Training**

The Department of Psychology and Social Sciences is an independently organized department of Rush Medical College, the Graduate College, and Presbyterian-St. Luke's Hospital. Department members are responsible for a behavioral sciences curriculum in the medical college. The department also is involved in training Ph.D. students through the Graduate College degree program in neuroscience.

The department provides clinical psychological services on a consultation basis to all inpatient medical departments. These services include answering general behavioral diagnostic questions, providing short-term psychological interventions, and liaison with medical staff providers. In addition, diagnostic and intervention services are provided through specialized programs in cancer, gerontology, rehabilitation neuropsychology, pediatric psychology, pain and stress management, and sleep disorders. Outpatient services are also provided for the diagnosis and management of marital and sexual problems, for cognitive remediation, and for disorders of sleep and wakefulness.

The department also is involved in research endeavors in many aspects of interaction between psychology and medicine. A sampling of currently active research topics includes: cognitive and effective changes in patients with Parkinson's

disease; assessment during the WADA procedure; innovative treatments of sleep apnea; role loss, depression, and dreaming; use of lights for resetting circadian rhythms; behavioral studies of myotonic dystrophy; chronic hallucinosis in Parkinson's disease; assessing the changes in quality of life in patients with cancer; evaluation of malingering inpatients with low back pain; psychological characteristics of patients with long-term back disability; and cognitive decline in normal aging and in central nervous system disorders in the elderly.

The department offers a predoc-toral clinical psychology residency program that is fully accredited by the American Psychological Association. Students apply to one of three specialty training programs in the residency: clinical child psychology, health psychology, and clinical neuropsychology. Approximately 60 to 70 percent of the resident's time is spent in specialty-related training during the residency year, with the remaining time devoted to more general resident experiences, conferences, and seminars. All programs are designed to fulfill the internship requirements for doctoral programs in clinical psychology. The department also offers postdoctoral fellowships in geropsychology and psycho-oncology.

Supervision in training is provided by a staff of 25 clinical psychologists and two physicians. The residency and postdoctoral fellowships begin on July 1. Inquiries should be directed to Martita Lopez, Ph.D., Director of Clinical Training.

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## **Department of Radiation Oncology**

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**Virendra S. Saxena, M.D.,  
Chairman**  
**Diane Recine, M.D.,  
Program Director**

The department offers a four-year program leading to qualification for the American Board of Radiology examination in therapeutic radiology, starting at the internship level. The program is accredited by the American Medical Association and the American Board of Radiology. Board-eligibility requires four years of training after medical school (of which three years are to be in therapeutic radiology) and successful passing of a written examination and an oral exam taken one year later.

The Department of Radiation Oncology is housed in the Woman's Board Cancer Treatment Center and is comprised of the sections of clinical radiation therapy, medical physics, and radiation biology. The 25,000 square feet of the Woman's Board Cancer Treatment Center contains three major treatment machines with electron capabilities: a hyperthermia unit, a treatment simulator-CT, and a superficial contact therapy unit with intraluminal capabilities.

The department also has special procedure rooms for minor surgical procedures, basic research laboratories, offices, and examining rooms. The radium laboratory contains 750 mg of radium isotopic equivalent for clinical use. An electronics shop provides maintenance, design, and production of special equipment.

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### **Section of Clinical Radiation Therapy**

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**Virendra S. Saxena, M.D., Director**

The section registers 800 new cancer patients per year who come for treatment visits and follow-up visits. These patients are seen by full-time attending staff and six house staff members. All patients are seen ini-

tially by the radiation therapy house staff for preliminary evaluation and a treatment plan before their treatment program is finalized with the attending staff.

The progress of the patients' treatment is frequently evaluated and monitored by both the house staff and the attending staff. Plans for all new patients are reviewed with the department's attending and resident staffs. Patients are admitted directly to radiation therapy services, and priority operating room privileges are assigned for radiotherapeutic operative procedures.

The department has an integrated residency program with Christ Hospital and Medical Center. A three-month rotation through the radiation therapy department at Christ is mandatory. Rotation through pediatric radiation oncology occurs either in the Chicago area or at other institutions in the United States.

The department manages the Midwest Institute of Neutron Therapy (MINT) at the Fermi National Accelerator Laboratory, a U.S. Department of Energy facility, where the department treats cancer patients by using neutrons.

The didactic teaching of the residents by the attending staff is carried out through three intradepartmental clinical conferences, one physics conference, and numerous interdepartmental conferences on such topics as lymphoma, head and neck cancer, urology, sarcoma, gynecology, and medical oncology. Topic reviews and journal club conferences are done on assignment by rotation among the residents. Two to three visiting professors per year and radiation therapy conferences in the Chicago area provide other opportunities for learning.

New modalities, such as intraoperative radiation therapy, hyperthermia, radiation therapy administered along with sensitizing chemotherapy, whole-body electrons for lymphomas of the skin, whole-body radiation for bone-marrow trans-

plants, endobronchial implants, and interstitial radiation for brain tumors, are performed under institutional as well as nationwide protocols. Opportunities for independent investigations are available.

Medical students from Rush and other schools who rotate through the department offer stimuli as well as a teaching challenge. In addition, first-year residents from surgery have a one-month elective rotation through radiation oncology.

Inquiries concerning the program should be addressed to the section director.

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### **Section of Medical Physics**

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#### ***James C.H. Chu, Ph.D., Director***

The Section of Medical Physics provides service and instruction to the entire medical center. Its general objectives are to improve methods of disease detection, plan and measure radiation dosage, design new apparatus, and protect the patient, the worker, and the public by assessing the radiation levels of the environment. These objectives are achieved through the application of physical science and engineering.

The faculty of the Section of Medical Physics of the Department of Radiation Oncology, together with the faculty of the Department of Medical Physics of the College of Health Sciences, is responsible for teaching radiologic physics to residents and medical students in the departments of Diagnostic Radiology and Nuclear Medicine, and Radiation Oncology. The faculty has established a series of credit courses that permit physicians to obtain the necessary training for licensure by the Nuclear Regulatory Commission. The courses cover radiation physics and instrumentation, radiation protection, mathematics pertaining to the use and measurement of radioactivity, radiation biology, and radiopharmaceutical chemistry.

In addition to the residency program described above, Rush University offers a program leading to a master of science degree in radiologic sciences. The goal of the program is to train well-motivated physicians and dentists in radiologic research as it applies to various branches of radiation medicine (i.e., radiation oncology, diagnostic radiology, and nuclear medicine) and to protection from radiation. The program offers optional areas of inquiry.

Graduates of the program, having demonstrated an ability to carry out research by completing the requirements for the master of science degree, will have an enhanced opportunity to enter a career in academic medicine. Furthermore, having participated in research, they will be more proficient in evaluating the significance of research reported in the medical literature.

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### **Section of Radiation Biology**

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#### ***David B. Rubin, M.D., Director***

The research section of radiation oncology is involved in several projects designed to investigate the mechanisms of alteration of radiation injury. The major focus of investigations in the science of radiation biology has been the radiation response of the vascular endothelial cell (EC). The vascular EC is the lining cell of all blood vessels and is an important regulator of blood flow and interaction between blood and surrounding tissue. ECs are critical targets of radiation injury and other types of free-radical oxidant stress. For radiation oncologists, a better understanding of the destruction, survival, and function of injured ECs could lead to the development of stratagems that would protect normal tissues against radiation while enhancing the treatment of tumors. However, an understanding of the EC response to free-radical oxidant stress is also applicable to acute and

chronic diseases that concern all aspects of medicine.

ECs cultured from bovine vessels have been irradiated in order to study (1) the role of antioxidant defenses in cell survival, (2) cell cycle events related to survival, and (3) the role of eicosanoids as markers and moderators of damage. The mechanisms of change in cellular and tissue radiosensitivity may be useful in altering the therapeutic ratio and increasing the effectiveness of radiation as a treatment of cancer. A formal course in radiobiology is offered each year in the spring term to acquaint students with the

fundamentals of the interaction of ionizing radiation with living organisms. The staff of the section also provides lectures on radiation effects to the graduate nursing oncology program each year. Residents in radiation oncology have a three-month rotation through the laboratory to become familiar with laboratory procedures involved in the research program. The combination of course work and active participation in ongoing research activities provides residents with both established concepts and current views in the field of radiobiology as applied to radiation therapy.

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## **Department of Urology**

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**Charles F. McKiel, Jr., M.D.,  
Chairman**

The Department of Urology offers a five-year residency program approved for certification by the American Board of Urology. The residency program is fully accredited by the Residency Review Committee in Urology and the Accreditation Council for Graduate Medical Education. A full-time pediatric urologist is head of the Section of Pediatric Urology.

The first two years of residency training are devoted to nephrology, oncology, radiology, infectious diseases, general surgery, renal transplantation, and other specially requested programs approved by the chairman. This plan gives residents a firm foundation when urologic training begins in the third year of residency. The resident will have at least 12 months of general surgery during the pre-urologic years.

The third year of residency is the first year in urology. Emphasis is placed on endoscopy and the various special diagnostic techniques that are the backbone of the specialty. Residents gain wide experience in urologic surgery, usually as first or second assistant.

Third-year residents have wide primary responsibilities in patient care, but they are encouraged to conduct some research in association with a member of the staff in the urology research laboratory. Such research may be continued in future years.

The fourth-year resident assumes increasing responsibility for the inpatient service at Presbyterian-St. Luke's Hospital. During the fourth year, residents perform major urologic surgery under close supervision and begin their transurethral experience.

During the fourth year, residents are assigned to pediatric urology for a six-month period. They scrub on all pediatric cases and see pediatric patients in the office with the pediatric urologist.

In the fifth year, senior residents are also in charge of all conferences and delegate responsibility for education, patient care, and research as they see fit. Although attending urologists are always available for counsel and assistance, the senior resident is encouraged to pursue a vigorous and self-reliant course of patient care and teaching.

All patients admitted to the service are available for teaching. Clinical experience encompasses a broad scope of problems, including infertility, tumor surgery, stone disease treated by percutaneous ureteroscopy and extracorporeal shock-wave lithotripsy, obstructive diseases of the urinary tract, microsurgery, and the use of prostheses (urinary and penile).

Active teaching clinics are conducted in private outpatient offices located in the Professional Building. The department sees approximately 3,800 patients per year, 92 percent of whom are adults and 8 percent are children. Currently an average of 4,800 surgical procedures are performed, including transurethral resections.

All residents are required to attend weekly teaching conferences held at Rush Medical College. Residents are required to participate in and attend those conferences on the service through which they are rotating during the first and second years. The journal club meets twice a month. Chairman's rounds are held weekly. Morbidity and mortality conferences are held monthly.

All residents are required to participate in the Chicago Urological Society meetings. The society meets regularly during the winter months. Out-of-town speakers are regularly invited to give special rounds, which may deal with new research, new surgical or diagnostic techniques, or new concepts in treatment.

All residency inquiries should be directed to the chairman.

## **Organization of the Medical Center**

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### **MANAGEMENT**

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**Leo M. Henikoff, M.D.**  
President and Chief Executive Officer

**Donald R. Oder**  
Executive Vice President and Chief Operating Officer

**Truman H. Esmond, Jr.**  
Senior Vice President, Hospital Affairs

**Kathleen Gainor Andreoli, D.S.N.**  
Vice President, Nursing Affairs and Dean, College of Nursing

**Jack R. Bohlen**  
Vice President, Philanthropy and Communication  
Secretary, Board of Trustees

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**Erich E. Brueschke, M.D.**  
Vice President, Medical Affairs and Dean, Rush Medical College

**Avery Miller**  
Vice President, Inter-Institutional Affairs

**Kevin J. Necas**  
Vice President, Finance

**Patricia Castel Skarulis**  
Vice President, Information Services

**John E. Trufant, Ed.D.**  
Vice President, Academic Resources  
Dean, The Graduate College and  
Dean, College of Health Sciences

**Marie E. Sinioris**  
Vice President  
President, ArcVentures, Inc.

**James T. Frankenbach**  
Vice President  
President and Chief Executive Officer  
Rush North Shore Medical Center

**D. Chet McKee**  
President and Chief Executive Officer  
Copley Memorial Hospital

**Sister Patricia Ann Koschalke**  
President and Chief Executive Officer  
Holy Family Medical Center

**Bruce C. Campbell, Dr.P.H.**  
President and Chief Executive Officer  
Illinois Masonic Medical Center

**Leonard J. Muller**  
President and Chief Executive Officer  
Oak Park Hospital  
Westlake Community Hospital

**William G. Ries**  
President & Chief Executive Officer  
Lake Forest Hospital

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### **RUSH UNIVERSITY**

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**Leo M. Henikoff, M.D.**  
President

**Donald R. Oder**  
Executive Vice President and Treasurer

**John E. Trufant, Ed.D.**  
Vice President, Academic Resources

**W. Randolph Tucker, M.D.**  
Director, Research Administration

**William C. Wagner, Ph.D.**  
Associate Dean, Student Services

**Trudy A. Gardner, Ph.D.**  
Assistant Dean for Educational Resources and Director, Library of Rush University

**Jane Scopelliti**  
Manager, Student Financial Affairs

**Ann Cocks**  
Director, Student Affairs

**Robert A. Dame**  
Director, Student Financial Aid

**Michael J. Harris, Ph.D.**  
Director, Academic Skills Center

**Beverly B. Huckman**  
Equal Opportunity Coordinator for Academic Affairs

Marilyn A. Johnson, Ph.D.  
Director, Student Counseling  
Center  
Phyllis J. Peterson  
Director, College Admissions  
Services, and  
Director, Affiliated College  
Programs  
Paula M. Smith  
Manager, Rush University  
Bookstore  
Joe B. Swihart  
Registrar and Director, General  
Educational Resources  
Thomas J. Welsh, D.V.M., Ph.D.  
Director, Comparative Research  
Center

Susan K. Jacob, Ph.D.  
Assistant Dean, Preclinical  
Curriculum  
Edward J. Eckenfels  
Assistant Dean, Academic  
Counseling  
Margaret A. McLaughlin, M.D.  
Assistant Dean, Career  
Counseling  
Tammara S. Crist  
Assistant Vice President,  
Administration  
Jan Schmidt  
Director of Admissions

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## RUSH MEDICAL COLLEGE

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Erich E. Brueschke, M.D.  
Dean  
Stuart Levin, M.D.  
Vice Dean  
Hassan Najafi, M.D.  
Vice Dean  
Janis M. Orlowski, M.D.  
Associate Dean, Medical  
Sciences and Services  
Alexander Doolas, M.D.  
Associate Dean, Surgical  
Sciences and Services  
Klaus E. Kuettner, Ph.D.  
Associate Dean, Basic Sciences  
and Research  
Julius Newman, M.D.  
Associate Dean at Copley  
Memorial Hospital  
Kenneth D. Schmidt, M.D.  
Associate Dean at Copley  
Memorial Hospital  
Edwin Feldman, M.D.  
Associate Dean at Illinois  
Masonic Medical Center  
Larry J. Goodman, M.D.  
Associate Dean, Medical Student  
Programs  
Meryl H. Haber, M.D.  
Associate Dean, Continuing and  
Graduate Medical Education  
Lois M. Nora, M.D., J.D.  
Assistant Dean, Clinical  
Curriculum

Kathleen Gainor Andreoli, D.S.N.  
Dean, College of Nursing  
Lois Halstead, Ph.D.  
Associate Dean and Director,  
Curriculum and Instruction  
Barbara Haynes, Ph.D.  
Director, Student Support  
Services

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## COLLEGE OF HEALTH SCIENCES

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John E. Trufant, Ed.D.  
Dean, College of Health Sciences

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## THE GRADUATE COLLEGE

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John E. Trufant, Ed.D.  
Dean, The Graduate College

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## APPROVALS AND ACCREDITATIONS

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Joint Commission on Accreditation  
of Healthcare Organizations  
Commission for Accreditation of  
Rehabilitation Facilities  
Liaison Committee on Medical  
Education  
Department of Registration and  
Education, State of Illinois  
North Central Association of  
Colleges and Schools

National League for Nursing  
Council on Accreditation of  
Educational Programs for Nurse  
Anesthesia  
American Dietetic Association  
Accrediting Commission on  
Education for Health Services  
Administration  
Accreditation Council for Graduate  
Medical Education  
Association for Clinical Pastoral  
Education  
Commission on Accreditation  
for Allied Health Education  
Programs:  
Accreditation Committee on  
Perfusion Technology  
National Accrediting Agency for  
Clinical Laboratory Sciences  
American Council for Occupational  
Therapy Education  
American Speech-Language and  
Hearing Association—Educational  
Standards Board

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## LICENSES

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Department of Public Health, State  
of Illinois  
Cook County Board of Health

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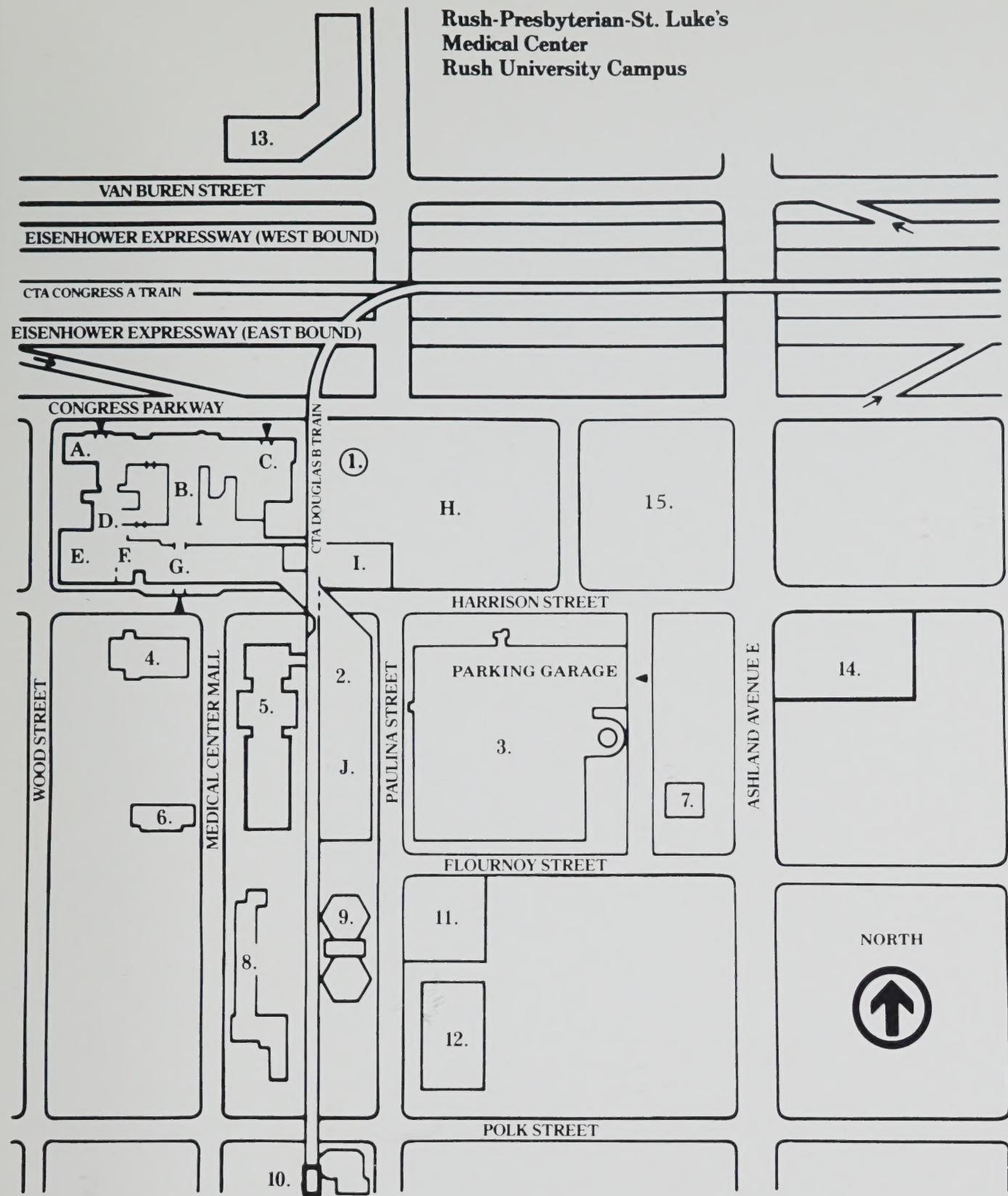
## MEMBERSHIPS

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American Hospital Association  
Illinois Hospital Association  
Metropolitan Chicago Health Care  
Council  
Federation of Independent Illinois  
Colleges and Universities  
Association of American Medical  
Colleges  
American Association of Colleges of  
Nursing  
American Association of Allied  
Health Professions  
Association of University Programs  
in Health Administration  
Association for Health Services  
Research  
Voluntary Hospitals of America

## **NOTES**

**Rush-Presbyterian-St. Luke's  
Medical Center  
Rush University Campus**



1. Presbyterian-St. Luke's Hospital
  - A. Jones
  - B. Pavilion
  - C. Kellogg Pavilion
  - D. Murdock
  - E. Rawson
  - F. Senn
  - G. Jelke SouthCenter
  - H. Atrium Building
  - I. Woman's Board Cancer Treatment Center
2. Academic Facility
  - J. Employee and Student Cafeteria
3. Parking Garage
4. Schweppé-Sprague Hall
- 13.

5. Professional Building
6. Kidston Apartments
7. Laurance Armour Day School
8. Marshall Field IV Mental Health Center
9. Johnston R. Bowman Health Center for the Elderly
10. Polk Street Station, CTA
11. Parking
12. Human Resources Center for Employee Development
13. 1700 W. Van Buren Office Building
14. The Inn at University Village
15. Tennis Courts/Jogging Track



